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INDIANA BUREAU OF
LEGISLATIVE INFORMATION

611-0979

C 26 TWENTY-THIRD BIENNIAL REPORT

OF THE

STATE BOARD OF HEALTH

OF

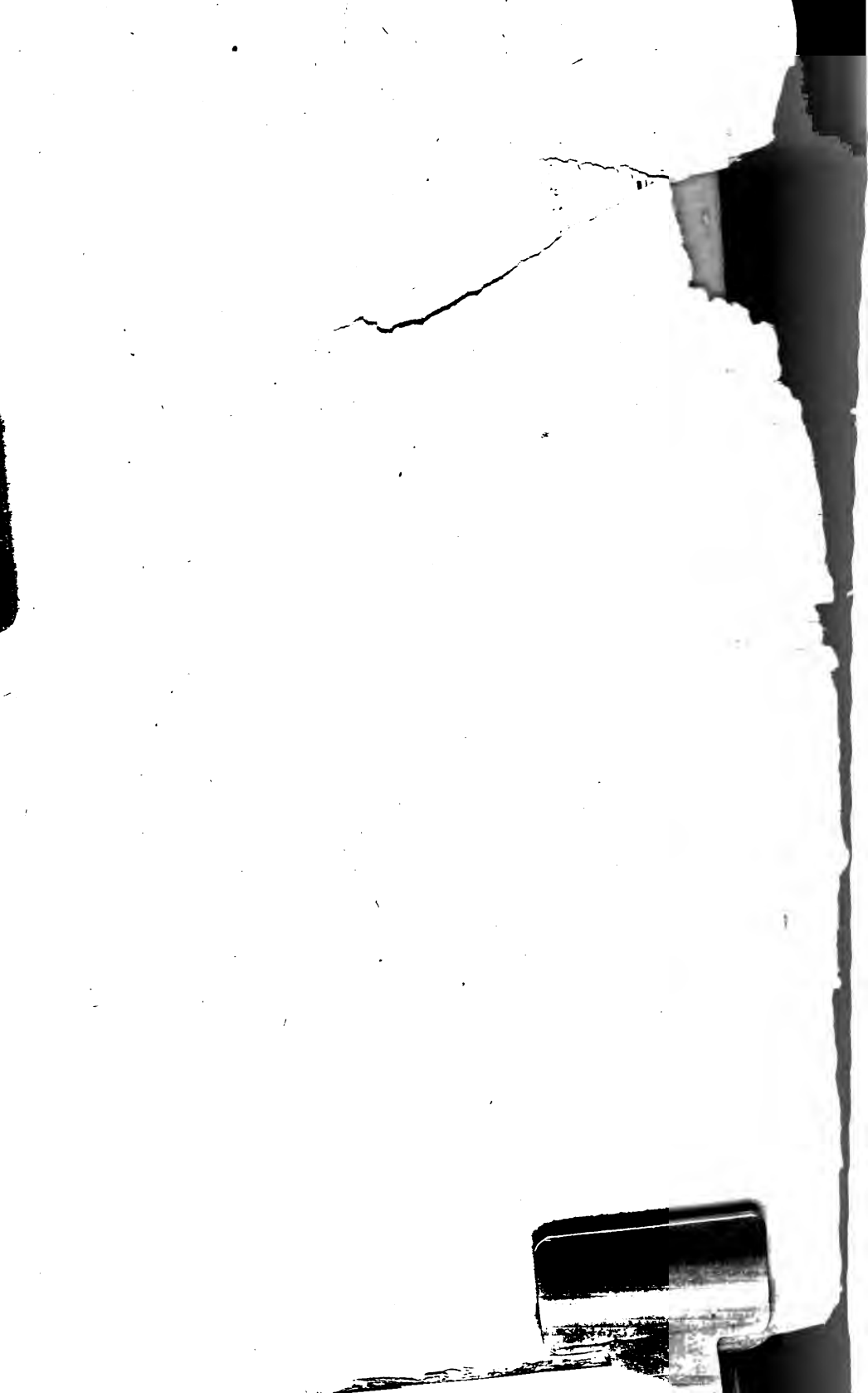
CALIFORNIA

FOR THE

Fiscal Years from July 1, 1912, to June 30, 1914



CALIFORNIA
STATE PRINTING OFFICE
1914



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Fiscal Years from July 1, 1912, to June 30, 1914



**CALIFORNIA
STATE PRINTING OFFICE
1914**

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LETTER OF TRANSMITTAL.

OFFICE OF CALIFORNIA STATE BOARD OF HEALTH,
SACRAMENTO, July 15, 1914.

To His Excellency, HIRAM W. JOHNSON,
Governor of California.

DEAR SIR: In accordance with the state law, I herewith transmit to you the Twenty-third Biennial Report of the State Board of Health of California for the sixty-fourth and sixty-fifth fiscal years.

Respectfully submitted.

DONALD H. CURRIE,
Secretary of the State Board of Health.

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REPORT OF THE SECRETARY.

The death rates in California during the past two years, and the morbidity reports during the same period of time, indicate that there has been a general decrease in the prevalence and distribution of most of the communicable diseases. The opening of the Panama Canal would lead to the supposition, however, that there may be an increase in the number of cases of communicable disease in the future. Since the morbidity and mortality reports for the past two years are presented in another portion of the Board's Twenty-second Biennial report, the Secretary desires to summarize the diseases that are most dangerous to California, and, therefore, those which have to be watched most carefully. I have, with this idea in view, passed in review the more dangerous communicable diseases, not only those that exist within the State, but those that exist in nearby countries, or at least in countries with which we have constant commercial intercourse, and it is the intention, in so far as space will permit, to consider each of these in a brief way, both from the standpoint of our apparent danger from them, as well as our best defense against them.

The list which I present below is not given in the order of their importance. In fact, their relative importance is a difficult matter to determine, but I have started out by considering five of the six diseases which the Federal Government protects us from through its quarantine stations and medical inspectors in foreign ports, and proceeded from this group to those diseases that, although preventable, are like the proverbial poor, "always with us."

PLAGUE.

A reference to the Public Health reports will show that from without we have Ecuador reporting cases of this disease, and from past history of that section and our knowledge of plague, it is safe to regard the whole west coast of South America as infected, and to also regard with considerable suspicion the west coast of Mexico, especially in the neighborhood of Mazatlan, which some ten years ago suffered from a severe outbreak. For reasons of safety we must consider that once plague is reported from a locality, unless it can be shown that considerable laboratory examination is being continually carried on with regular results, that locality must remain indefinitely under suspicion. In addition to these, the following foreign countries having traffic with America: the Philippines, Australia, Hawaii, Java, certain Chinese and Japanese ports, are either constantly reported as being infected, or have been so reported in recent times.

The Public Health Service, through its quarantine offices in San Francisco and other California ports, is keeping close watch of this disease from foreign countries, and, therefore, this danger of future infection of California is reduced to a minimum.

When we leave the subject of plague in foreign countries, we must next consider an outbreak among rats in Seattle, Washington. We there find that measures are being taken under the supervision of the United States Public Health Service for the protection of California ports; so, danger from that source is very slight. There are dangers, however, in the Northwest cities which had constant intercourse with

Seattle previous to the discovery of plague in that place. From last reports these places had not adopted systematic measures looking to the discovery of infected rats. These places must be regarded as real sources of danger, unfortunately; for until a city has examined its rats and reported some of them infected, the National Quarantine Stations are not permitted to adopt measures on vessels arriving in California from such places, and therefore, these other parts of the Northwest must be considered as possible sources of danger to us.

In our own State we find that there has been no infection among ground squirrels reported for some time past. This fact would not ordinarily have great significance, because at this season of the year only adult squirrels are in existence. Most of these adults have been immunized by an annual spring outbreak that has been occurring for some years past, but this particular year, it is believed by Surgeon John D. Long, U. S. Public Health Service, in charge of this work, will mark the disappearance of the disease. He hopes to destroy all squirrels in the known infected zones of Contra Costa, Alameda, and Santa Clara counties, and by the first of July to complete his work in the remaining infected counties of Stanislaus, Merced, San Joaquin, San Benito, Monterey, and Santa Cruz. This infection of ground squirrels, so far as we can believe circumstantial evidence, spread from an outbreak among rats at the Port Costa grain wharves in 1903 and swept from there to all the counties mentioned in the preceding list. While it remains it is a constant menace to the people of the infected districts, and it is to be hoped that its eradication will occur at an early date.

SMALLPOX.

The dangers of this disease from foreign countries and adjoining states is relatively prevalent compared to the dangers of the spread from foci that exist within the state. While no extensive outbreaks have occurred recently, the disease is widespread in this state, and that fact, together with apparently growing anti-vaccination sentiment in some sections, makes this disease one of the more serious dangers to the State's health. Fortunately, as in other parts of the United States, since late in the nineties, the type has been mild in character, and the mortality correspondingly low. It is not safe, however, to regard this mildness of type as a permanent feature of the disease. Vaccination is the only dependable measure against this danger, is simple to perform, and compared to the dangers of the mildest type of this disease, is harmless.

Anti-vaccination sentiment, for the most part, is based upon three fundamental mistakes:

1. Ignorance of or inability to weigh the evidence presented by history; that in the pre-vaccination period of our own race or the more recent history of uncivilized people, before vaccination was performed, practically all people born had smallpox and of these one in four died. While on the other hand, since this great discovery was made, well-vaccinated communities never experience a serious outbreak of the disease.

2. The belief that climate, mode of living or general sanitation can prevent the spread of this disease among the unvaccinated; there is no reason to believe that our better mode of life has any influence on the communicability of this disease.

3. That vaccination is dangerous; to this we may say that there is no potent drug used in medicine, no surgical procedure, that has not caused death, and so, if we search the literature of vaccination, we find death from it also; but, what is this mortality compared to the mortality of smallpox? It is difficult to answer this question, but it is certain that it is not more than as 1 is to 10,000, and yet, in spite of this, we find persons comparing the dangers of one to the dangers of the other!

To illustrate the peculiar fear that some have of this measure in comparison with other more serious procedures, the writer doubts that those who dread vaccination would have the least hesitation in allowing any one of the other three below mentioned measures performed, if their condition demanded it: the removal of tonsils, the administration of a hypodermic injection, or the placing of a hot water bottle at the feet; yet, the writer has observed one death from each of the above procedures—the first from infection, the second from shock, the last from scalding. During the same time that these were observed, although he has seen thousands vaccinated, he has never seen the loss of life or limb result. It is to be hoped that some day, some one will start a *pro*-vaccination society, and if such an organization employs one half the zeal in searching for proof that vaccination has done inestimable good and very little harm that the anti-vaccinationists have employed in unearthing the few fatal results in history, there would remain very few unvaccinated persons among the logical-minded members of a community.

Until some such movement is launched to offset this dangerous and foolish popular error, ours must continue to be the only civilized country of the world that does not uniformly vaccinate its children.

LEPROSY.

There has never been any great amount of this disease in California. At any given moment 30 or less cases are to be found in the isolation hospitals of the State, and most of these are imported cases, or, at least, those who have acquired their infection in other countries.

Undoubtedly, some cases have acquired their infection here. Without the literature available at this moment the writer recalls two cases of undoubted California origin, reported by Montgomery of San Francisco; but while few cases *have* originated here, there is no doubt that infection can be acquired anywhere, provided a sufficient number of persons come in intimate contact with lepers. The danger of this disease here is in the influx of persons from certain other countries; notably, China, Japan, Hawaii and Mexico. The incidence of this disease is high among all the people just mentioned and each of these nations sends frequent visitors to our shores. Such persons, of course, are inspected at our National Quarantine Stations, but often it is impossible to detect cases in their early stages. Physicians throughout the State should bear these facts in mind and keep a lookout for suspicious symptoms among those people from infected areas, who come to them for treatment. By this means, many cases will be detected that might otherwise escape and infect others.

At a meeting of the Board on February 7, 1914, a resolution was passed which made leprosy a quarantinable disease under the laws of the State.

YELLOW FEVER.

Cases of this disease are frequently reported from the west coast of Mexico and from the equatorial and subtropical portions of South America's west coast. We have direct traffic from both of these areas and several vessels have entered San Francisco in the last ten or fifteen years having had cases of this disease during their voyages. Owing to the length of the voyage from most parts of the areas mentioned, and the efficient quarantine inspections of California ports upon entering, the chances of cases of this disease reaching shore are very small. To further add to our security is the fact, according to Professor Herms of the University of California, that so far as the University has authoritative information, the yellow fever mosquito, *Stegomyia colopus*, does not exist in California. This is a most favorable circumstance, but it also points out the importance of keeping this mosquito from entering in the future. It is true that most of our maritime traffic from countries having this mosquito, notably Mexico and Hawaii, enters at the port of San Francisco. The weather at that port is usually too cold to be conducive to the mosquito flying ashore from its harbor on the vessel, but there are days that are warm enough to permit of such flight and there is little reason to doubt that in the interior of the State there are many localities where this mosquito would thrive in the same way that the *Anopheles* and *Culex* do.

In adopting precautions to prevent California from becoming infested with this species, we must also remember that Louisiana and Texas, only a few days removed from us, have this mosquito in great abundance and if once introduced on a western bound Pullman car, it would be likely to become established here. We believe this subject is important enough to be taken up with the Federal authorities to make it part of their new inspection of coaches.

ASIATIC CHOLERA.

From our public health reports it will be seen at present that, with the exception of the extensive outbreak of this disease at the site of the recent Turko-Balkan war and nearby countries, no great prevalence of the disease is recorded.

The countries mentioned are too remote at present to be of importance to us, but inasmuch as cholera carriers have been demonstrated to disseminate this virulent micro-organism for a period of sixty days or more, the outbreak in southeastern Europe may become of importance to us with the opening of the Panama Canal.

At present our only source of danger is from Asiatic ports, where in certain countries, at least, the disease is epidemic.

Our quarantine stations do all in their power to protect us from this danger, including the systematic examination of the discharges of immigrants from cholera ports. But in spite of such precautions, owing to the difficulty of detecting some cholera carriers, it is possible for the disease to become introduced. "The jumps" this disease can make were shown in the Hawaiian outbreak of the spring of 1911, when cholera appeared in Honolulu, the nearest known cases being in Japan, ten or twelve days away by the fastest steamers.

The country which has, during ordinary times, made itself most secure against the spread of typhoid fever, is safest against the spread of cholera, should that disease once be introduced, and remote is our

danger from this disease at the present time. The extremely deadly nature of cholera makes an additional reason why we should do everything to prevent food and water supplies from being contaminated directly or indirectly by sewage.

TYPHOID FEVER.

Practically our only danger here is from the spread of the disease from existing foci; the imported cases are too rare to be of much relative importance. At this time of the year the chief danger lies in the contamination of streams from surface washing, incident to heavy rains, as well as the infection of ground waters by the same means. Later in the year the fly becomes an important factor, especially about insanitary camps, insanitary "health resorts" and other places where the fly is allowed to visit food supplies and cesspools, alternately, at such intervals as its fancy dictates.

Physicians, as well as the general public, should closely observe and report to their local health officers all pollution of streams. They should also report all insanitary stables where flies are bred (according to entomologists, 90 per cent of the common fly *musca domestica* breeds in such places) as well as cesspools and unprotected food supplies. Health officers are requested to report such conditions to this office, which will give its services freely in assisting them to abate such nuisances.

The Board has now employed Mr. E. T. Ross, of many years experience in the U. S. Public Health Service, as Sanitary Inspector. One of Mr. Ross' chief duties will be to cooperate with the health officers of the cities and counties in their efforts to abate nuisances which tend to spread typhoid fever. This office, working through its local health officers and Mr. Ross, intends to devote much attention to this important matter.

RABIES.

This subject has been too well covered by Dr. Sawyer's several reports for the Secretary to feel called upon to discuss it from any of its scientific aspects, but in passing this terrible, but at the same time preventable disease, the writer desires to make the following remarks:

This office regards the passage and enforcement of local ordinances requiring the muzzling of canines in infected districts of the utmost importance, and will support the efforts of the local health officers to the limit of its powers.

It is not intended here to enter into a discussion of the *need*; the evidence that the disease is prevalent among dogs in certain parts of California is sufficient to convince any tribunal within the borders of this State. Nor is it our intention to express an opinion as to whether it is better to legislate for the convenience of dogs or for the lives of children; we may feel called upon, if the occasion arise, to discuss this matter with the mother voters of infected districts at some later date—but not here. Nor, as a lover of dogs, will the writer here urge that it is better for the dogs to be inconvenienced than to die in horror. The Secretary *will* state, however, that if any county fails to protect its citizens from this disease, he will do all in his power to have the general laws of the State applied from the time the matter comes to his attention until the following meeting of the Board, and shall then recommend to

that body that such application be continued until the county has adopted a proper ordinance.

HOOKWORM.

A great deal has been said in recent years of the danger of this State becoming infested by the hookworm parasite. While this has not been borne out, probably, by data that we have at present, we must bear in mind that we possess a large area of sandy soil similar to that in which, in other countries, experience has demonstrated this disease is especially prone to spread. We also have a large mining population which is notably susceptible to this parasite.

With these conditions favoring its development and spread, once thoroughly introduced, we must also remember that we have at present immigrants from Asia, where the disease is very common, and Portuguese colonists showing a high percentage of infection, coming to us after a short stay in the Hawaiian Islands.

Later, when the canal opens, we will have an influx of immigrants from the Mediterranean countries, where the parasite is common. Besides these foreign sources of infection, we have constant railway communication with many areas of our Southern States, where the percentage of infected persons is very high.

Up to the present there has been no great influx of persons from these districts of the classes that are ordinarily infected (poorer members of farming communities), but we do have some, especially negroes, and they may play a part in the introduction of the parasite.

With these ideas in view, this office has requested that Professor C. W. Stiles visit the State at his earliest convenience, and make a special survey from a hookworm infection standpoint.

In connection with this subject, the foreign translation from the Italian is of interest to the health authorities of the State.

"The Measures Against Hookworm in Italy," by Pieraccini ('Il Levato, May 30, 1913), states that a commission appointed by Parliament for the study of the proposal and establishment in Italy of a monopoly of the State for the sale of phymol, makes the following observations: That hookworm infection is an occupational disease affecting almost exclusively those who have to work with the soil, such as gardeners, farmers, miners, etc. It is also a disease which affects chiefly the lower grades of society, not only lowering the resistance of the adult, but also stamping the children of infected adults, as is observed by the retarded or arrested development of the former. The tendency of this disease in Italy has been to spread. Not only is this true of the European varieties, but returning emigrants have brought back the American hookworm, *Necator Americanus*. The measures recommended are the manufacture, sale and administration by the State of phymol, which drug is prompt and efficient in its action against this disease, and is not dangerous when properly administered to children. The State sells this drug for ten centimes a dose, in the same manner that they distribute quinine at low cost in malarial districts. They may recommend that an intelligent search be made among those engaged in certain occupations, to learn if they are carriers of the disease, to recommend sanitary methods of sewage disposal, especially in mines and places where this disease is most often found.

DIPHTHERIA.

This disease is widespread throughout the State. During the year 1913, 1,659 cases were reported. From the numbers of population considered there has been no very large outbreak during the year. There exists a sufficient number of cases, however, to justify health officers to urge the physicians of their respective localities to promptly report all cases that come under their observation, also in order that cases may be recognized with greater accuracy to urge that these physicians send cultures from all suspected throats to the Hygienic Laboratory at Berkeley. Not only should such cultures be sent during the active stage of the disease, but also during convalescence period before the quarantine restrictions have been removed. Frequent swabs should also be made from the throats of other occupants of the house, such as parents, brothers, sisters, nurses, attendants, etc. It is only in comparatively recent times that we fully grasp the fact that this is one of the diseases that is carried by the non-ill bacilli carrier and the mild unrecognized cases of the disease. Until we have, by the means above indicated, discovered a great percentage of these dangerous cases and adopted proper quarantine measures against them, there is little hope of eradication, even in the restricted sense of the term.

Of all the many difficult problems that come up for public health administration, probably one of the least easy to solve satisfactorily is a case of bacilli carriers. It is apparent that upon theoretical grounds, at least, we should keep a person quarantined so long as he contains micro-organisms dangerous to his fellows. In the case of diphtheria this means we should keep him under surveillance as long as bacilli are found in his throat. The practical drawback to this plan is that it often requires restriction of the liberty of the carrier for weeks, months or even years. For this reason any measures that are claimed to succeed in removing the pathogenic micro-organisms from the throats of diphtheria patients are worthy of combined clinical and laboratory investigation.

DONALD H. CURRIE,
Secretary.

REPORT OF BUREAU OF ADMINISTRATION.

JOHN F. LEINEN, Director.

Report of Field Operations Under the Joint Supervision of the State Board of Health and the United States Public Health Service.

Senate Bill No. 160, passed by the California legislature and approved by the Governor of California June 7, 1913, became effective August 10, 1913. The State Board of Health passed the following resolution, under date of August 20, 1913:

Whereas, There has been found within the territory comprised in the counties of Contra Costa, Alameda, Santa Clara, Santa Cruz, Monterey, San Benito, Merced, Stanislaus and San Joaquin, of the State of California, a total of one thousand eight hundred and forty-three (1,843) ground squirrels (*Citellus Beecheyi*) which have been proven by laboratory investigation to have been infected with a contagious and infectious disease, to wit, bubonic plague; and

Whereas, An act of the legislature of the State of California, approved June 7, 1913, provides: "Whenever any land, place, building, structure, wharf, pier, dock, vessel or water craft is infested with rodents, insects or other vermin which are liable to convey or spread contagious or infectious disease from an existing focus declared by the State Board of Health, it shall be the duty of said Board to at once notify the person, firm, copartnership, company or corporation, owning said land, place, building, structure, wharf, pier, dock, vessel or water craft, of the existence of said rodents, insects or other vermin and said notice shall direct said owner to proceed immediately to exterminate and destroy said rodents, insects or other vermin, and to continue in good faith such measures as may be necessary to prevent their return. In the event that said owner fails, refuses or neglects to proceed as above provided, within ten days from date of receipt of said notice, the State Board of Health may at once proceed to exterminate and destroy said rodents, insects or other vermin, and take such measures as may be necessary to prevent their return, and the cost of the above measures shall be repaid to the State Board of Health by the board of supervisors or other governing body of the county, city and county, city or town wherein the work is done at its next meeting after the bill is presented and the appropriation provided in section 1 of this act shall be reimbursed by the amount so paid, and may again be expended in a similar manner"; therefore, be it

Resolved, That the territory comprised within the aforesaid counties is hereby declared to be an existing focus of contagious and infectious disease; and be it further

Resolved, That the Secretary of this Board be directed to notify the supervisors of the above named counties of the passage of this resolution, and of the intention of the State Board of Health to proceed in accordance with the provisions of the act of the state legislature, approved June 7, 1913.

As soon as this resolution became effective, the following plan of operations was placed in effect:

1. All the counties mentioned in the resolution were divided into districts of approximately forty thousand acres each.

2. Each county was placed under the direction of a supervising inspector, responsible to headquarters; each forty-thousand-acre district was placed under the charge of a field inspector, responsible to the supervising inspector.

3. The field inspectors were directed to serve notices, as provided by law, upon the owners of infested lands.

4. At the expiration of ten days, the field inspector reinspected the property, to determine whether eradication measures had been instituted by the owner. If measures of eradication had not been instituted by the owner, as the law required, the field inspector requested the owner of the land to state a definite date, as early as possible, when he would begin work.

5. If the work of squirrel destruction had not been instituted on or before the date agreed upon, the field inspector reported the facts to

the supervising inspector. The supervising inspector then collected such data as were necessary for the information of the officer in charge, and forwarded the same to headquarters with a request for instructions.

6. When the report above mentioned was received at headquarters, the supervising inspector was either directed to go upon the land as soon as possible and destroy the squirrels that infested the same, or a force of State employees was directed by headquarters to proceed upon the land and do the work. When the work was completed, a statement of the expense incurred was submitted to the owner, and he was given an opportunity to pay the same, if he so desired. If the bill was not paid, as presented, the same was forwarded to the State Board of Health to be collected in the manner provided by the act of the California legislature, approved June 7, 1913.

It became necessary during the fiscal year to proceed upon the lands of fifty-three persons, comprising a total of 11,300 acres. An idea of the co-operation obtained from individuals in the destruction of squirrels may be gathered from the fact that out of a total of 33,350 inspections of ranches made during the fiscal year, only 53 ranches had to be proceeded upon in a summary manner, as provided by law.

Inspection Operations.

During the year inspection of land and serving of notices has been carried on as outlined earlier in this report. Operations have been conducted in the following counties: Contra Costa, San Benito, Santa Clara, Merced, Stanislaus, Alameda, San Joaquin, Santa Cruz, and Monterey. A total of 33,350 inspections over an area of 5,722,438 acres has been made during the year. Reinspections have been made over 6,903,307 acres, and a total of 1,909,728 acres has been treated by landowners as a result of the inspections made and notices served.

Hunting Operations.

Total number of ranches on which plague infected squirrels have been found since August, 1908, 252; total number of ranches hunted over during fiscal year, 2,525.

Squirrels shot	18,012
Squirrels found dead.....	414
Total	18,426
Squirrels examined	18,322
Squirrels infected with plague.....	177

At the close of the fiscal year ended June 30, 1913; there were 135,146 acres of known infected land. During the fiscal year infection was found on 15,005 acres of land where infection had never before existed. The total area of infected land June 30, 1914, 150,151 acres. In addition to the 150,151 acres of infected land just mentioned, there were 90,405 acres of land which immediately surrounded or adjoined the infected land, which were subjected to the same intensive treatment that was given to the actually infected territory. The total area of infected and adjoining lands is therefore 240,556 acres.

All of the infected and adjoining land has been thoroughly treated, and so far as is possible to determine, it is believed that plague infection has been entirely eradicated, except on about 20,000 acres which require further treatment to complete the eradication of infection. This

land is now being worked and it is believed that squirrels will have been practically eradicated, and all known infection wiped out, by the first of August, nineteen fourteen.

Summary of Hunting Operations for the Period April 1 to July 1, 1912, 1913 and 1914.

	1912	1913	1914
Ranches hunted over.....	723	990	1,464
Total number squirrels shot.....	19,335	16,186	13,162
Hunters engaged (average).....	9	17	21
Average days each man hunted.....	64.4	49.4	57.2
Squirrels per hunter per day.....	33.3	19.2	10.5
Squirrels shot per ranch.....	26.7	16.3	8.5
Infected squirrels shot during period.....	506	283	44
Per cent of squirrels infected.....	2.61	1.74	0.34

Hunting operations over infected and adjoining territory are practically completed.

The forty-four squirrels mentioned in the preceding tables were found as follows:

County	Ranch	Infected Squirrels	Completed or Working
San Benito	McCray	2	Completed
San Benito	Palcines	7	Working
Monterey	Kelley	1	Completed
Contra Costa	Vasco Grant	5	Working
Contra Costa	Crocker	1	Working
Contra Costa	Walnut Creek District (small lots— area 714 acres).....	17	Working
Alameda	Fredericks	11	Working

Of the forty-four infected squirrels shot during the hunting season of 1914, only two had the disease in the septicæmic form. These two squirrels were found as follows:

One on the McCray ranch in San Benito County.

One on the Vasco Grant in Contra Costa County.

As may be seen from the summary of hunting operations above given, there has been a reduction in the number of squirrels shot per hunter per day in 1914, as compared to the same period in 1912, of 68.5 per cent; as compared to 1913, there has been a reduction of 45.3 per cent. The reduction in the number of squirrels shot per ranch in 1914 as compared to 1912, is 68.2 per cent, and as compared to 1913 is 47.9 per cent. The reduction of infection in 1914 as compared to 1912 is 91.4 per cent; as compared to 1913, is 84.5 per cent.

Human Cases.

Two human cases of plague occurred during the fiscal year. One case was that of a cook in a railroad camp in Contra Costa County. The disease was bubonic in type and resulted fatally. The other case occurred at Walnut Creek, in Contra Costa County, was mild bubonic in type, atypical in course, and the patient made a prompt recovery.

Special Projects.

During the latter part of the fiscal year ended June 30, 1913, it developed that many landowners were more inclined to proceed with

the eradication of squirrels from their lands if expert supervision could be provided—as past experience had indicated to them that good and permanent results at a low cost, could not be obtained by the methods that had been followed out in the past. After a number of requests of this character had been received, the plan was adopted of providing an expert foreman to supervise the work on any tract of land where the owner would furnish adequate labor, and material sufficient to complete the work of squirrel destruction in a manner satisfactory to the service. During the fiscal year 107 requests for supervision were received and as a result 625,154 acres were freed from squirrels. In every instance complete satisfaction was expressed by the landowners with the results that had been obtained, and the statement was made that a sufficient number of men would be kept at the work of squirrel extermination to prevent reinfestation of the lands that had been cleaned, by squirrels that infested adjoining territory.

General Considerations.

The operations of Senate Bill No. 160, passed by the California legislature and approved by the Governor June 7, 1913, have been very satisfactory. But little opposition has been encountered, and in no instance have legal measures been resorted to by any individual to evade compliance with the law. In several instances intimations were received that a strong desire existed to test the constitutionality of the law, but by careful handling and the exercise of some patience, these landowners were finally induced to comply with the requirements of the law without resorting to legal measures. These individuals have since expressed themselves as entirely satisfied with the work as carried out, and in several instances they have exerted themselves to induce others to comply promptly and consistently, with uniformly good results.

The belief that had heretofore existed throughout the State, that the problem of squirrel destruction was impossible of solution, is gradually losing ground, and representatives of counties in which plague infection has never been found have requested this office to lend assistance in the organization of a campaign of squirrel destruction within said counties. Inasmuch as plague infection had never been demonstrated within these counties, it was impossible to comply with the requests beyond giving such general advice as seemed appropriate. Landowners generally have begun to appreciate, as never before, the economic benefits that are accruing, and will accrue, to them as the result of the destruction of the squirrels which had heretofore infested their properties and caused them great losses each year, due to the destructive tendencies of these rodents; and numbers of individuals have expressed their determination to carry on the work of squirrel destruction to final completion in order to protect the investment that has already been made in work of this character.

As nearly as can be learned, about fifteen hundred squirrel destructors have been used by the various agencies engaged in squirrel destruction. A total of 402,280 acres of land have been treated by this means with, as nearly as can be determined, an average efficiency of from 95 per cent to 100 per cent for the first application.

During the year a new method of using waste balls in the destruction of ground squirrels has been devised. Heretofore the expense attached

to the use of the waste ball method has been between three and three quarters and five cents per hole, for labor and material. As a result of the system in use during the past rainy season the expense per hole has been reduced to about two cents for labor and material. The system in use is, briefly, as follows:

A unit gang of seven laborers was required. A live, active man was selected to place the balls in the holes. He was kept supplied with a bucket of saturated waste balls and a bundle of galvanized iron pins with a white flag attached, similar to the pins used by engineers. The "ball man" placed a ball in each hole encountered and placed a pin close to it. Two "torch men" followed, igniting the balls. Three men with mattocks followed the torch men, covered the holes, and removed the pins. A supply man was utilized to keep the ball man supplied with material, that no time be lost. Where sufficient labor was available, one supply man could keep two gangs of six moving constantly, thus obviating the necessity for the services of one supply man. By this means, in heavy infestation, four hundred to five hundred holes per man per day have been treated. The average for all infestation runs in the neighborhood of two hundred to three hundred holes per man per day, depending upon the topography of the ground. The efficiency of the method has run between 85 per cent and 95 per cent. The principal advantage of this method is that the ground can be rapidly covered and all burrows and colonies are filled with poisonous fumes in a very short space of time, thus insuring the destruction of the majority of the squirrels before they are able to dig out and escape. This method, however, is applicable only in the wet season when the ground is damp, and there is no danger of the dissipation of the gas through cracks in the ground or danger of starting grass or grain fires where dry vegetation exists. A total of 503,125 acres were treated by this method.

The following table will show the results of operations as reported by field inspectors and supervising inspectors from the various counties. This table was compiled from the daily report cards of the various inspectors and has been verified as nearly as possible by surveys made from time to time by representatives from headquarters. It is believed that the figure of 73.8 per cent eradicated is as nearly accurate as it is possible to obtain.

Table Showing Infestation in Plague Infected Counties in California, to June 30, 1914.
RECAPITULATION.

County	Total Area (Acres)	Area Eradicated (Acres)	Percentage Eradicated	Area Squirrels 1 to 5 (Acres)	Percentage Eradicated and 1 to 5	Area Squirrels 5 to 15 (Acres)	Area Squirrels 15 and over (Acres)
Alameda	537,600	425,253	79.1 %	103,405	98.3 %	7,306	1,636
Contra Costa	480,000	435,568	90.7 %	34,742	97.9 %	9,690	-----
Merced	1,120,000	507,768	45.3 %	606,896	99.5 %	5,336	-----
Monterey	2,208,000	1,999,512	90.5 %	181,379	98.7 %	26,244	865
San Benito	944,640	753,346	79.7 %	177,260	98.5 %	13,510	524
Santa Clara	867,200	769,709	88.7 %	72,980	97.1 %	5,140	19,371
Santa Cruz	272,000	255,236	93.8 %	16,414	99.8 %	350	-----
San Joaquin	876,800	771,272	87.9 %	102,428	99.6 %	3,200	-----
Stanislaus	951,040	183,861	19.3 %	438,000	65.3 %	184,539	144,640
Total	8,257,280	6,101,525	73.8 %	1,733,504	94.8 %	256,315	167,036
Average eradicated							73.8%
Average eradicated and 1 to 5							94.8%

The following table summarizes the total amount of lands treated, the number of acres treated by the various methods, and indicates the cost of all operations, as closely as the same can be figured:

RECAPITULATION OF SQUIRREL ERADICATIVE WORK 1913-1914.
Number of Acres Worked.

	Grain	Waste balls	Destructors	Total
By individuals -----	1,251,836	398,569	251,323	1,901,728
Federal camp -----	3,521	-----	8,220	11,741
Special projects* -----	386,270	99,940	138,944	625,154
State camps -----	2,891	4,616	3,793	11,300
Grand total -----				2,549,923

*Labor and material furnished by owners, supervision by service. Total number acres treated, waste ball and destructors, 905,405.

Number of Holes Treated.

Waste ball and destructors:	
By individuals -----	3,176,206
Federal camp -----	244,295
Special projects -----	1,894,174
State camps -----	241,653
Total -----	5,556,328
Average number of holes per acre-----	6.15
Total number of holes on 2,549,923 acres, at 6.15 holes per acre----	15,650,000

Cost Data.
BY INDIVIDUALS.

	Number pounds used	Cost	Cost of labor	Total cost
Grain-----	472,123	\$35,409 22	\$145,694 25	\$181,103 47
CS ₂ -----	182,220	16,399 80	10,496 00	26,895 80
Kilmol -----	147,570	16,232 70	11,189 80	27,422 50
Total -----				\$235,421 77

REPORT OF THE STATE BOARD OF HEALTH.

Squirrel Eradicative Work. Cost Data—Continued.

SPECIAL PROJECTS.

	Number pounds used	Cost	Cost of labor	Total cost
Grain-----	125,231	\$9,392 32		
CS ₂ -----	117,740	10,596 60		
Kilmol-----	81,060	8,916 60		
Total-----		\$28,905 52	\$29,486 44	\$58,391 96

FEDERAL.

Headquarters:				
Salaries-----			\$9,929 49	
Rentals-----			1,825 78	\$11,255 27
Field:				
Salaries-----			\$79,449 69	
Livery-----			2,618 00	
Supplies-----			1,476 95	
Freight and travel-----			210 00	
				83,754 64
State-----				35,866 80
Counties-----				19,157 32
Oakland (one man)-----				1,640 00
Cost of material and labor (individuals)-----				235,421 77
Cost of material and labor (special projects)-----				53,391 96
Total cost-----				\$445,487 76
Average cost per acre-----				\$0.174
Average cost per hole-----				.0284

Summary of Hunting Operations for the Month of July, 1912, 1913, 1914.

		1913	1914
Ranches hunted over-----	344	244	399
Total number squirrels shot-----	4,544	2,811	4,761
Hunters engaged-----	12	11	17
Average days each man hunted-----	19	15.5	18
Squirrels per hunter per day-----	20-	16+	15.5
Squirrels shot per ranch-----	13+	11.5	11.9
Infected squirrels shot during month-----	357	115	16
Percentage of squirrels infected-----	7.8%	4%	0.33%

The sixteen infected squirrels shot in July, 1914, were found as follows:

County	Ranch	Number infected squirrels	Completed or working
Alameda-----	Fredericks-----	6	Completed
Alameda-----	Sullivan (immediately adjoins Fredericks ranch)-----	1	Working
Contra Costa-----	Walnut Creek district-----	8	Working
San Benito-----	Paicines-----	1	Completed

Sanitary Inspections.

A request from the State Board of Health for a sanitary inspector was approved on January 22, 1914, and Mr. Edward T. Ross, who served with the United States Public Health Service for eighteen years, was appointed to the position.

Since his appointment the following inspections have been made

Summer resorts	40	Ferryboats	4
Fair grounds	1	Sanitariums	1
Canneries	4	Slaughter houses	3
Trains	55	Packing houses	1
Ranches	2	Granite works	2
Schools	3	Water sheds	4
Jails	2	Labor camps	3
Septic tanks	2	Towns, general inspections.....	22
Sewer farms	1	Hospitals	1
Lodging houses	14	Miscellaneous	3

FINANCIAL STATEMENT.

Biennial Period July 1, 1912, to June 30, 1914—Sixty-fourth and Sixty-fifth Fiscal Years.

Contagious Disease Appropriation.

To prevent the introduction, and provide for the investigation and suppression of contagious and infectious diseases.

1912—Receipts		1912—Expenditures	
Balance from sixty-third fiscal year	\$173 08	Ground squirrel extermination	\$6,430 72
Balance from emergency fund, sixty-third fiscal year	9,985 28	Automobile for use of the United States Public Health Service for plague campaign	1,600 00
		Poliomyelitis investigation	500 00
		Rabies investigation	194 36
		Balance	1,433 28
	\$10,158 36		\$10,158 36

1913—Receipts		1913—Expenditures	
Amount appropriated ...	\$100,000 00	Squirrel extermination:	
Fees collected	458 52	Salaries	\$22,233 31
Refund on salaries.....	15 00	Office expense	1 00
		General expense	41 42
		Telephone and telegrams	24 76
		Travel expense	541 95
		Automobile expense	1,606 85
		Printing and stationery	304 82
		Miscellaneous	14,502 41
		Sanitary inspections, laboratory work, etc.:	
		Salaries	1,341 66
		Traveling expenses	466 63
		Supplies	194 70
		Miscellaneous	1,490 67
		Balance	57,723 34
	\$100,473 52		\$100,473 52

FINANCIAL STATEMENT—Continued.

Hygienic Laboratory Appropriation.

For support of State Hygienic Laboratory for bacteriological work.

1912—Receipts		1912—Expenditures	
Balance from sixty-third fiscal year	\$328 31	Salaries	\$8,453 05
Amount appropriated	10,000 00	Miscellaneous expenses	1,760 82
Services for Berkeley Health Department	150 00	Printing	28 10
		Travel expenses	122 05
		Sewage investigations	83 55
	\$10,478 31	Balance	30 74
			\$10,478 31

1913—Receipts		1913—Expenditures	
Amount appropriated	\$10,000 00	Salaries	\$7,907 33
Oregon Board of Health, three anti-rabic treatments	30 00	Office expenses	48 29
Refund of salaries	10 00	General expenses	347 32
		Postage	161 00
		Telephone and telegrams	47 27
		Travel expenses	135 75
		Chemicals	163 53
		Animals	167 25
		Printing and stationery	196 76
		Equipment	780 13
		Miscellaneous	85 37
	\$10,040 00		\$10,040 00

FINANCIAL STATEMENT—Continued.

Traveling and Contingent Appropriation.

For traveling and contingent expenses.

1912—Receipts		1912—Expenditures	
Balance from sixty-third fiscal year	\$136 39	Claims of sixty-third fiscal year	\$119 70
Amount appropriated	3,000 00	Salaries	1,512 25
Certified copies of vital statistic records	304 92	Office expense	258 78
United States Government—copies of death certificates	1,041 54	Postage	291 17
Collections under state stream pollution law...	1,680 98	Telephone and telegrams	434 72
		Office equipment	186 40
		Expenses for enforcing stream pollution law...	1,925 49
		Travel expense	1,408 94
		Balance	31 38
	\$6,163 83		\$6,163 83

1913—Receipts		1913—Expenditures	
Amount appropriated	\$3,750 00	Office expense	\$106 21
Certified copies of vital statistic records	397 20	General expense	54 44
United States Government—copies of death certificates	845 85	Salaries	3,608 62
Collections under state stream pollution law...	553 71	Postage	608 90
Return of revolving fund.	250 00	Telephone and telegrams	352 80
Transferred from the contagious disease appropriation	1,490 67	Travel expenses	1,385 90
Return on scrip	4 19	Revolving fund	250 00
		Miscellaneous	46 39
		Investigation of streams	653 69
		Balance	224 67
	\$7,291 62		\$7,291 62

Occupational Disease Appropriation.

For payment of fees for reporting and investigating occupational diseases.

1912—Receipts		1912—Expenditures	
Balance from sixty-third fiscal year	\$196 00	Payments for reports...	\$5 00
Amount appropriated	200 00	Balance	391 00
	\$396 00		\$396 00

1913—Receipts		1913—Expenditures	
Amount appropriated	\$1,000 00	Fees	\$3 00
	\$1,000 00	Balance	997 00
			\$1,000 00

FINANCIAL STATEMENT—Continued.

Pure Food and Drug Appropriation.

For the support of the Pure Food and Drug Laboratory.

1912—Receipts		1912—Expenditures	
Balance from sixty-third fiscal year -----	\$1,300 77	Drayage -----	\$0 65
Amount appropriated -----	15,000 00	Stationery -----	144 51
Fines collected -----	85 00	Gas and water -----	70 77
		Salaries -----	11,053 00
		Extra help -----	325 19
		Travel expenses, inspectors -----	1,740 82
		Travel expenses, director -----	368 00
		Travel expenses, attorney -----	384 60
		Travel expenses, miscellaneous -----	57 25
		Apparatus -----	367 63
		Supplies -----	667 85
		Petty bills -----	315 70
		Subscriptions -----	10 00
		Books -----	42 20
		Telegrams -----	1 40
		Furniture -----	126 96
		Telephone -----	12 88
		Press clippings -----	110 00
		Expressage -----	19 77
		Postage -----	99 50
		Printing -----	87 85
		Rent of office, Los Angeles -----	162 00
		Miscellaneous -----	58 41
		Notary fees -----	77 00
		Balance -----	81 83
	\$16,385 77		\$16,385 77

1913—Receipts		1913—Expenditures	
Amount appropriated -----	\$22,500 00	General expense -----	\$442 53
Fines collected -----	222 25	Postage -----	128 50
Refund on claims -----	35 71	Printing and stationery -----	442 83
Fees for water examinations -----	180 00	Notary fees -----	89 00
		Chemicals -----	642 96
		Apparatus -----	1,920 28
		Office rent, Los Angeles -----	162 00
		Miscellaneous -----	513 37
		Office expense:	
		Berkeley -----	441 62
		Sacramento -----	10 00
		Salaries:	
		Inspectors -----	6,598 31
		Office, Berkeley -----	5,469 89
		Office, Sacramento -----	1,235 34
		Traveling expenses:	
		Inspectors -----	2,039 05
		Director -----	158 10
		Attorney -----	301 70
		Miscellaneous -----	46 10
		Balance -----	2,296 38
	\$22,937 96		\$22,937 96

FINANCIAL STATEMENT—Continued.

Printing Appropriation.

For printing, binding, ruling and all other work performed and materials furnished by the State Printing Office.

1912—Receipts		1912—Expenditures	
Balance from sixty-third fiscal year -----	\$1,293 93	Bulletins, stationery, etc.	\$2,665 63
Amount appropriated ---	3,000 00	Balance -----	1,628 30
	<u>\$4,293 93</u>		<u>\$4,293 93</u>

1913—Receipts		1913—Expenditures	
Amount appropriated ---	\$4,000 00	Bulletins -----	\$1,693 22
		Stationery -----	1,074 09
		Binding -----	537 30
		Balance -----	695 39
	<u>\$4,000 00</u>		<u>\$4,000 00</u>

Statutory Salaries.

1912—Receipts		1912—Expenditures	
Amount appropriated ---	\$20,900 00	Central office:	
		Secretary -----	\$3,600 00
		Assistant to the secretary -----	2,400 00
		Statistician -----	2,400 00
		Deputy statistician -----	1,600 00
		Clerk -----	1,600 00
		Two copyists -----	1,800 00
		Pure food and drug laboratory:	
		Director -----	3,000 00
		Assistant director -----	1,500 00
		Attorney -----	3,000 00
	<u>\$20,900 00</u>		<u>\$20,900 00</u>

1913—Receipts		1913—Expenditures	
Amount appropriated ---	\$22,100 00	Central office:	
		Secretary -----	\$3,280 00
		Assistant to the secretary -----	2,400 00
		Statistician -----	2,400 00
		Deputy statistician -----	1,600 00
		Clerk -----	1,600 00
		Two copyists -----	1,800 00
		Stenographer -----	1,135 37
		Pure food and drug laboratory:	
		Director -----	3,000 00
		Assistant director -----	1,200 00
		Attorney -----	3,000 00
		Balance -----	684 63
	<u>\$22,100 00</u>		<u>\$22,100 00</u>

FINANCIAL STATEMENT—Continued.

Tuberculosis Appropriation (Chapter 692, Statutes 1911.)

Providing for the dissemination of knowledge among the people of California as to the best means of preventing the spread of tuberculosis.

1912—Receipts		1912—Expenditures	
Balance from sixty-third fiscal year -----	\$2,057 32	Salaries -----	\$676 25
Refund on scrip -----	2 75	Postage -----	25 75
		Printing -----	7 10
		Extra clerical help -----	43 35
		Travel expenses -----	917 32
		Supplies -----	44 00
		Drayage -----	12 50
		Miscellaneous expense ---	36 00
		Balance -----	297 80
	\$2,060 07		\$2,060 07

1913—Receipts		1913—Expenditures	
Balance from sixty-fourth fiscal year -----	\$297 80	Salaries -----	\$60 00
		Balance -----	237 80
	\$297 80		\$297 80

Tuberculosis Appropriation (Chapter 242, Statutes 1909.)

Providing for the dissemination of knowledge among the people of California as to the best means of preventing the spread of tuberculosis.

1912—Receipts		1912—Expenditures	
Balance from the sixty-third fiscal year -----	\$1 08	Postage -----	\$1 08

Tuberculosis Appropriation (Chapter 385, Statutes 1913.)

Providing for the establishment and maintenance of a department of tuberculosis under the direction of the State Board of Health.

1913—Receipts		1913—Expenditures	
Amount appropriated ---	\$7,500 00	Office expenses -----	\$39 50
Refund on scrip -----	7 03	Salaries -----	2,700 00
		Postage -----	20 00
		Travel expenses -----	419 54
		Printing and stationery ---	19 67
		Balance -----	4,308 32
	\$7,507 03		\$7,507 03

FINANCIAL STATEMENT—Continued.

Nurses' Registration Fund.

Provided to promote the better education of nurses and the better care of the sick in the State of California, to provide for and regulate the examination and registration of graduate nurses, and to provide for the issuance of certificates of registration as registered nurses to qualified applicants.

1913—Receipts		1913—Expenditures	
License fees -----	\$48,582 00	Salaries -----	\$2,379 51
		Postage -----	668 00
		Printing and stationery -----	700 56
		Travel expenses -----	233 05
		Miscellaneous expenses -----	217 40
		Balance -----	44,383 48
	\$48,582 00		\$48,582 00

Anti-Rabic Virus Appropriation.

Authorizing the State Board of Health to purchase, or prepare, and distribute, free of cost, to certain persons, anti-rabic virus.

1913—Receipts		1913—Expenditures	
Amount appropriated ---	\$5,000 00	General expenses -----	\$120 14
		Salaries -----	1,789 49
		Postage -----	104 00
		Printing and stationery -----	12 75
		Apparatus -----	161 69
		Miscellaneous -----	18 00
		Animals -----	284 85
		Balance -----	2,509 08
	\$5,000 00		\$5,000 00

Cold Storage Fund.

Provided for the regulation of refrigerating warehouses.

1913—Receipts		1913—Expenditures	
License fees -----	\$1,150 00	Salaries -----	\$41 69
		Postage -----	126 30
		Travel expenses -----	6 64
		Balance -----	975 37
	\$1,150 00		\$1,150 00

Office Equipment Appropriation.

Providing for the purchase of office equipment.

1913—Receipts		1913—Expenditures	
Amount appropriated ---	\$2,200 00	Equipment -----	\$2,031 70
		Balance -----	168 30
	\$2,200 00		\$2,200 00

REPORT OF BUREAU OF VITAL STATISTICS.

GEORGE D. LESLIE, STATISTICIAN.

I. SUMMARY OF STATISTICS: 1913 AND 1912.

SYNOPSIS.

Birth, Death and Marriage Totals.—The California birth total has more than doubled since the first year's registration of 20,974 for 1906, having risen steadily to 39,330 for 1912, and 43,852 for 1913.

The excess of births over deaths first shown in 1911 was as great as 5,253, or 13.6 per cent, in 1913.

The death total, exclusive of stillbirths, has oscillated slightly since the start at 29,303 in 1906, being 36,709 in 1912 and 38,599 in 1913.

The marriages have fluctuated greatly from the total of 21,317 for 1906, numbering 31,276 for 1912, but only 31,383 for 1913.

In 1912 to 1913 births increased by no less than 4,522, or 11.5 per cent; deaths by 1,890, or 5.1 per cent; and marriages by merely 107, or 0.3 per cent.

The birth rate has grown steadily ever since 1906, while the death and marriage rates each fell at times in the eight-year period.

The increase in 1912 to 1913 for both births and deaths was relatively greater for the territory south of Tehachapi than for that to the north, while the gain in marriages was confined among geographic divisions to Southern California.

Increases appeared for thirty-seven of the whole fifty-eight counties in births, for thirty-eight in deaths, and for twenty-seven in marriages.

The rates of gain in births surpassed the State average (11.5) in the following twenty-two counties: Alpine, Inyo, Mendocino, Sutter, San Diego, Placer, Imperial, Contra Costa, Sonoma, Madera, Yolo, Tehama, San Joaquin, Yuba, Sacramento, Tulare, Amador, Los Angeles, Kern, Alameda, Monterey and Orange.

The increases in deaths were over 10.0 per cent in sixteen counties, as follows: Lassen, Imperial, Madera, Modoc, Placer, Amador, Yuba, Plumas, Siskiyou, Mariposa, Contra Costa, Solano, Monterey, Sutter, Sierra, and Calaveras.

The gains in marriages exceeded 10.0 per cent in the following thirteen counties: Inyo, Trinity, Yolo, Imperial, Yuba, Sutter, San Diego, Napa, Shasta, Siskiyou, Del Norte, Contra Costa, and San Joaquin.

For freeholders' charter cities as a class the rate of gain in births was 11.8 against 5.4 in deaths, while for all the rest of the State the per cents of increase were 11.0 and 4.8 for births and deaths, respectively.

Increases in births were shown by eighteen of thirty-one chartered cities and in deaths by twenty cities.

The gains in births surpassed the city average, 11.8 per cent, in thirteen cities, as follows: Petaluma, San Diego, Santa Monica, Long Beach, San Bernardino, Richmond, Sacramento, Berkeley, Watsonville, Pasadena, Oakland, Los Angeles, and San Jose.

The increases in deaths exceeded the average for cities, 5.4 per cent, in the following thirteen cities: Long Beach, Modesto, Salinas, Napa, Vallejo, Eureka, Richmond, Grass Valley, Fresno, Los Angeles, San Diego, San Bernardino, and Sacramento.

Birth and Death Totals Compared.—The birth registration exceeded the death total in 1913 for all geographic divisions except only the coast counties of northern California, the total excess of births over deaths being as great as 5,253, or 13.6 per cent, in 1913 against merely 2,621, or 7.1 per cent, in 1912.

The excess of births over deaths for chartered cities was 18.0 per cent in 1913, and 11.2 per cent in 1912, as compared with only 6.7 and 0.8 per cent respectively for the rest of California.

More births than deaths were reported in both 1913 and 1912 for seventeen cities, as follows: Santa Rosa in Northern California; San Francisco, Alameda, Berkeley, Oakland, Richmond, Monterey, San Luis Obispo, Palo Alto, San Jose, Watsonville, Fresno, Sacramento, and Vallejo in Central California; and Los Angeles, Pasadena, and Riverside in Southern California.

The thirty-two chartered cities in 1913 and the thirty-one in 1912 reported altogether 63.3 and 63.1 per cent of the birth registration for the whole State, as compared with only 60.9 and 60.8 per cent, respectively, of the California death total, birth registration being more complete within these cities than outside them.

Birth, Death and Marriage Rates.—For 1913 and 1912, respectively, the California birth rates per 1,000 population were 16.4 and 15.2, the death rates 14.4 and 14.2, and the marriage rates 11.7 and 12.1.

The latest birth rates are by far the highest since 1906, as are marriage rates also in less degree, though recent death rates are about the same as for 1906 to 1908.

The birth, death and marriage rates, especially births, are considerably higher for Southern California than for Central or Northern California.

The rates in each case are higher for the metropolitan area than for the rural counties north of Tehachapi as well as for San Francisco than for the other bay counties.

The individual counties with birth rates above the State averages in both 1913 and 1912 were: Sacramento, San Diego, Stanislaus, Los Angeles, Fresno, Orange, and San Francisco.

The counties with death rates above the general averages in both years were: Napa, San Diego, San Joaquin, Lake, Sacramento, Yuba, El Dorado, San Bernardino, San Francisco, Santa Clara, Los Angeles, and Nevada.

Marin and Orange, near San Francisco and Los Angeles, invariably show by far the highest marriage rates. Other counties with marriage rates above the State averages in the last two years were: San Diego, Sacramento, San Francisco, Los Angeles, and San Mateo.

The birth rates are much higher for chartered cities, 18.1 and 17.0 in 1913 and 1912, than for all the rest of the State, merely 14.1 and 13.0.

The death rates are also somewhat higher within cities, 15.3 and 15.2, than outside them, only 13.3 and 12.9.

The birth rates exceeded the city averages both years in Watsonville, Richmond, Modesto, Fresno, Santa Rosa, San Diego, Sacramento, Los Angeles, San Luis Obispo, and San Jose.

The death rates surpassed the averages for cities each year in Modesto, San Diego, San Bernardino, Richmond, Long Beach, Eureka, Watsonville, Santa Monica, Stockton, Sacramento, Santa Rosa, San Luis Obispo, Santa Barbara, and San Francisco.

On the other hand, there were relatively low death rates in both 1913 and 1912 for Palo Alto, Berkeley, Monterey, Alameda, Oakland, Pasadena, Pomona, Petaluma, Vallejo, Santa Cruz, and Fresno.

INTRODUCTION.

Sources of Information.—The California law of 1905 for the registration of vital statistics requires the prompt reporting of every birth, death or marriage occurring in the State by the immediate filing of a prescribed form of certificate for each such event with the proper local registrar for transmittal in monthly returns to the State Bureau of Vital Statistics. The local registrars are the health officers of cities having freeholders' charters, for both births and deaths, and the clerks in other cities and incorporated towns for deaths alone. Each county recorder, besides being local registrar for all marriages anywhere in the county, is also local registrar for births occurring outside freeholders' charter cities, as well as for deaths happening outside all cities and incorporated towns. County recorders as local registrars of deaths for the unincorporated portions of counties furthermore appoint subregistrars to receive death certificates and issue burial or removal permits at points remote from county seats.

The California law requires a physician or other person assisting at a birth to file a certificate, properly filled out, within five days thereafter with the health officer for a birth occurring in any freeholders' charter city or with the county recorder for a birth taking place outside cities of this class. In case of a birth occurring without the attendance of a physician, midwife or nurse, the parents or next of kin are required by law to file the birth certificate with the proper local registrar within ten days after the event.

As to deaths, the State law holds each undertaker responsible for obtaining and filing a satisfactory death certificate with the local registrar (or subregistrar) of the district where any death occurs prior to the interment or other disposition of the body, the statute forbidding any disposition of the remains except by authority of the local registrar's (or subregistrar's) permit obtainable only by the filing of a complete and satisfactory death certificate.

With reference to marriages, the California law requires all persons who perform the marriage ceremony in this State to file the prescribed form of marriage certificate, properly filled out, with the county recorder as local registrar within three days after the performance by them of any marriage ceremony.

Indexing of Records.—The original certificates of births, deaths and marriages thus filed with local registrars are required by law to be forwarded to the State Registrar on or before the fifth day of the following month. In the State Bureau of Vital Statistics the births, deaths and marriages throughout California are indexed separately

and systematically on appropriate cards sorted and arranged by names in alphabetical order carried to minute subdivisions. For the period from about July 1, 1905, when the law was put into operation, to the end of 1913 the index cards for California aggregate nearly 300,000 each for births as well as deaths, and over 400,000 for marriages, the marriage index cards being made in duplicate and then sorted separately to cover both grooms and brides. For eight and a half years there are thus altogether 1,000,000 index cards on file in the State bureau as references to the names of children born, persons dead, and couples married in California.

Tabulation of Statistics.—In the State Bureau of Vital Statistics the statistical information on the original birth certificates there filed has been tabulated to the present time merely by direct tallying of certain items from the original certificates. Likewise, statistical data have been compiled as yet from the original marriage certificates simply by sorting and counting the certificates in selected groups. The birth and marriage tabulations are thus necessarily limited within a somewhat restricted range permitting no further expansion.

For deaths, however, tabulation cards have been in use since the organization of the State bureau in 1905 which allow a wide range in the scope of statistical tabulations relating to mortality. In the California Bureau of Vital Statistics the statistical data on the death certificates are transferred to tabulation cards such as are used in the Federal Census Bureau by means of a punching machine. The tabulation cards are punched to show for each death the following particulars: Sex, color (or race), month of death, age, conjugal (or marital) condition, birthplace, birthplace of father, birthplace of mother (by countries for the foreign born), occupation, cause of death, and length of residence in California. Occupations and causes of death are necessarily designated by index numbers, the key for occupations being like that used in the Vital Statistics Division of the Federal Census Bureau, and the key for deaths agreeing with the International Classification of Causes of Death. Each tabulation card also shows, by certain holes punched according to a definite system, the registration district (the county and the freeholders' charter city or other city or town), as well as the local registered number of the certificate to which the card corresponds.

Although the tabulation cards are meant to be sorted and counted by electrical tabulating devices such as are used in the Federal Census Bureau and other statistical offices, the cards in the California Bureau of Vital Statistics have so far been sorted and tabulated only by hand. On this account the tabulations have necessarily been limited to causes of death, and, in addition, to only sex, race, nativity (of white decedents), age periods and occupations, for both 1913 and 1912, together with marital or conjugal condition for 1913 alone. Because of the lack of clerical assistance it has also been impossible to make these detailed tabulations for leading cities or individual counties, but only for certain geographic divisions, data being published in some cases merely for the State as a whole. However, total deaths have been tabulated by causes for freeholders' charter cities as well as for all counties in both 1913 and 1912.

Geographic Divisions.—For convenience in tabulation the fifty-eight counties of California have been grouped in three main and eight minor geographic divisions. The three main divisions are Northern, Central, and Southern California. The line between Northern and Central California has been drawn at the southern boundary of Placer, Sutter, Colusa, Napa, and Sonoma counties, or the northern boundary of El Dorado, Sacramento, Yolo, and Marin counties. This dividing line extends irregularly from Lake Tahoe to the Pacific Ocean somewhat north of San Francisco Bay. The line between Central and Southern California has been drawn at the southern boundary of Inyo, Kern, and San Luis Obispo counties, or the northern boundary of San Bernardino, Los Angeles, Ventura, and Santa Barbara counties. This line is familiarly located by Tehachapi pass.

In both Northern and Central California, divisions have been made between the coast and the interior counties. In each case the coast counties include some counties not actually contiguous to the Pacific Ocean but yet on the westward side of the Coast Range. Moreover, in Central California, San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo) have been made minor geographic divisions. Similarly, in Southern California, Los Angeles has been made a minor geographic division in contrast with the other seven counties south of Tehachapi.

The three main and eight minor geographic divisions are as follows, the counties in each group being arranged alphabetically for the sake of ready reference:

TABLE 1.—Main and Minor Geographic Divisions of California, with Counties Included in Each.

NORTHERN CALIFORNIA.			
<i>Coast Counties.</i>			
Del Norte	Lake	Napa	Trinity
Humboldt	Mendocino	Sonoma	
<i>Interior Counties.</i>			
Butte	Modoc	Shasta	Sutter
Colusa	Nevada	Sierra	Tehama
Glenn	Placer	Siskiyou	Yuba
Lassen	Plumas		
CENTRAL CALIFORNIA.			
<i>San Francisco.</i>			
(City and County)			
<i>Other Bay Counties.</i>			
Alameda	Contra Costa	Marin	San Mateo
<i>Coast Counties.</i>			
Monterey	San Luis Obispo	Santa Clara	Santa Cruz
San Benito			
<i>Interior Counties.</i>			
Alpine	Inyo	Merced	Stanislaus
Amador	Kern	Mono	Tulare
Calaveras	Kings	Sacramento	Tuolumne
El Dorado	Madera	San Joaquin	Yolo
Fresno	Mariposa	Solano	
SOUTHERN CALIFORNIA.			
<i>Los Angeles.</i>			
<i>Other Counties.</i>			
Imperial	Riverside	San Diego	Ventura
Orange	San Bernardino	Santa Barbara	

BIRTH, DEATH AND MARRIAGE TOTALS.

The State.—Under the law of 1905 for the registration of vital statistics in California, returns are now available for the eight calendar years, 1906 to 1913, inclusive. Figures for the State as a whole are summarized in the table which follows, giving the birth, death and marriage totals, together with the increase and rate per 1,000 population, for the eight-year period covered by the operations of the present law.

TABLE 2.—Birth, Death and Marriage Totals, with Increase and Rate per 1,000 Population, for California: 1906 to 1913.

Year	Total	Increase		Rate per 1,000 population
		Number	Per cent	
Births.				
1913	43,852	4,522	11.5	16.4
1912	39,330	4,502	12.9	15.2
1911	34,828	2,690	8.4	14.0
1910	32,138	1,256	4.1	13.4
1909	30,828	2,806	10.0	13.4
1908	28,077	3,403	13.8	12.7
1907	24,674	3,700	17.6	11.6
1906	20,974			10.3
Deaths.				
1913	38,599	1,890	5.1	14.4
1912	36,709	2,697	7.9	14.2
1911	34,012	1,614	5.0	13.7
1910	32,398	1,413	4.6	13.5
1909	30,985	*302	*1.0	13.4
1908	31,287	192	0.6	14.1
1907	31,095	1,792	6.1	14.6
1906	29,303			14.4
Marriages.				
1913	31,383	107	0.3	11.7
1912	31,276	3,973	14.6	12.1
1911	27,303	2,366	9.5	11.0
1910	24,937	2,020	8.8	10.4
1909	22,917	1,178	5.4	9.9
1908	21,739	*1,266	*5.5	9.8
1907	23,005	1,688	7.9	10.8
1906	21,317			10.5

*Decrease.

While the death and marriage totals for California have fluctuated somewhat in the eight years, each having decreased once though increasing thereafter, the birth total has grown steadily in successive years, rising from 20,974 in 1906 to 24,674 in 1907, 28,077 in 1908, 30,828 in 1909, 32,138 in 1910, 34,828 in 1911, 39,330 in 1912, and 43,852 in 1913. Beginning with 1911, moreover, the aggregate birth registration in California has exceeded the annual death total in increasing degree, the excess of births over deaths rising from 816, or 2.4 per cent, in 1911 to 2,621, or 7.1 per cent, in 1912, and to no less than 5,253, or 13.6 per cent, in 1913. Stillbirths are excluded from birth and death tabulations in all cases throughout this report.

The death total, exclusive of stillbirths, rose from 29,303 for 1906 to 31,095 for 1907 and to only 31,287 for 1908, falling back to 30,985 for 1909 but then rising again to 32,398 for 1910, 34,012 for 1911, 36,709 for 1912, and 38,599 for 1913.

The increase of 1,792, or 6.1 per cent, for 1906 to 1907 was followed by a gain of only 192, or 0.6 per cent, for 1907 to 1908 and a loss of 302, or 1.0 per cent, for 1908 to 1909, the death total for 1909 being thus less by 110 than that for 1907. However, the increase of 1,413, or 4.6 per cent for 1909 to 1910, was succeeded by the still greater gains of 1,614, or 5.0 per cent, for 1910 to 1911, of 2,697, or 7.9 per cent, for 1911 to 1912, and of 1,890, or 5.1 per cent, for 1912 to 1913.

The marriage total, beginning with 21,317 for 1906, rose to an early maximum of 23,005 for 1907, dropping then to 21,739 for 1908, but rising thereafter to 22,917 for 1909, 24,937 for 1910, 27,303 for 1911, 31,276 for 1912, and 31,383 for 1913. The early increase of 1,688, or 7.9 per cent, for 1906 to 1907 was followed by a decrease of 1,266, or 5.5 per cent, for 1907 to 1908 offset in part by the succeeding gain of 1,178, or 5.4 per cent, for 1908 to 1909. The gains in marriages were then successively greater, both absolutely and relatively, in the whole period 1909 to 1912, the increase being 2,020, or 8.8 per cent, for 1909 to 1910, 2,366, or 9.5 per cent, for 1910 to 1911, and 3,973, or 14.6 per cent, for 1911 to 1912. In 1912 to 1913, however, the increase in marriages was only 107, or 0.3 per cent, this small gain, like the sharp drop in the marriage total for 1908, indicating that matrimony is avoided during periods of hard times.

With reference to successive increases in births shown in Table 2. it must be remembered that the number and per cent of increase necessarily grow less and less as registration becomes more and more complete, since the early gains were swollen by improved registration while recent gains include little except the natural growth of population. Thus, the greatest relative increase shown is that of 3,700, or 17.6 per cent, for 1906 to 1907, due mainly to improved registration, yet the greatest real gain, largely in births occurring, is that of 4,522, or 11.5 per cent, for 1912 to 1913 or the preceding increase, slightly greater in degree, of 4,502, or 12.9 per cent, for 1911 to 1912.

Moreover, the birth rate per 1,000 population was highest of all, 16.4, for 1913 and next highest, 15.2, for 1912, the birth rate having moved upward ever since 1906, while the death and marriage rates have each suffered some diminution in the course of the eight-year period. Thus the death rates of 14.4 and 14.2 for 1913 and 1912, respectively, though somewhat above the death rates for 1909 to 1911 are yet not far from the same as the higher death rates for the earlier years, 1906 to 1908. Furthermore, the marriage rate of 11.7 for 1913, while less than that of 12.1 for 1912, is much greater than the marriage rate for any year between 1906 and 1911.

Geographic Divisions.—The following table gives the birth, death and marriage totals for the several geographic divisions in the last two years, together with the number and per cent of increase for 1912 to 1913.

TABLE 3.—Birth, Death and Marriage Totals, with Increase, for Geographic Divisions: 1913 and 1912.

Geographic division	Births		Deaths		Marriages		Increase: 1912 to 1913						
	1913	1912	1913	1912	1913	1912	Number		Per cent		Marriages	Deaths	Marriages
							Births	Deaths	Births	Deaths			
THE STATE	43,852	39,830	38,599	36,709	31,383	31,276	4,522	1,890	107	11.5	5.1	0.3	
Northern California	3,918	3,596	4,287	4,029	2,287	2,328	322	238	*41	9.0	5.9	*1.8	
Coast counties	1,746	1,629	2,187	2,165	1,131	1,176	217	82	*45	14.2	1.5	*3.8	
Interior counties	2,172	2,067	2,080	1,874	1,156	1,152	106	206	*4	5.1	11.0	0.3	
Central California	23,165	21,218	20,302	19,653	16,947	17,271	1,947	649	*324	9.2	3.3	*1.9	
San Francisco	7,552	6,954	7,002	6,766	5,940	6,102	566	236	*162	8.6	3.5	*2.7	
Other bay counties	5,736	5,058	4,602	4,470	4,583	4,710	678	132	*127	13.4	3.0	*3.2	
Coast counties	2,585	2,455	2,431	2,332	1,681	1,737	180	99	*56	5.3	4.2	*3.2	
Interior counties	7,292	6,751	6,267	6,085	4,743	4,722	541	182	21	8.0	3.0	0.4	
Southern California	16,769	14,516	14,080	13,027	12,149	11,677	2,253	1,003	472	15.5	7.7	4.0	
Los Angeles	11,957	10,403	9,795	8,890	7,584	7,490	1,559	815	94	15.0	9.2	1.3	
Other counties	4,802	4,106	4,325	4,137	4,565	4,187	694	188	378	16.9	4.5	9.0	
Northern and Central California	27,083	24,814	24,569	23,682	19,234	19,599	2,269	887	*365	9.1	3.7	*1.9	
Coast counties	17,619	15,996	16,222	15,723	13,335	13,725	1,632	499	*390	10.1	3.2	*2.8	
Interior counties	9,464	8,818	8,347	7,959	5,899	5,874	646	388	25	7.3	4.9	0.4	
Metropolitan area	13,288	12,012	11,604	11,236	10,523	10,812	1,276	368	*289	10.6	3.3	*2.7	
Rural counties	13,795	12,802	12,965	12,446	8,711	8,787	993	519	*76	7.8	4.2	*0.9	

*Decrease.

In 1912 to 1913 the increase shown for California as a whole was 4,522, or 11.5 per cent, in births against only 1,890, or 5.1 per cent, in deaths and merely 107, or 0.3 per cent, in marriages.

The rate of gain in births was 15.5 for Southern California (being 15.0 for Los Angeles alone and 16.9 for the remaining seven counties), as compared with 9.1 for Northern and Central California together. Similarly the per cent of increase in deaths was 7.7 for the counties south of Tehachapi (being 9.2 for Los Angeles and 4.5 for the other seven) against merely 3.7 for the territory north of Tehachapi. The increase in marriages in 1912 to 1913 was practically confined among geographic divisions to Southern California, the rate of gain being 1.3 for Los Angeles and no less than 9.0 for the other counties, or 4.0 for the whole territory south of Tehachapi, in contrast with a decrease of 1.9 per cent in marriages in Northern and Central California together.

Counties.—Table 4 shows the birth, death and marriage totals for counties as well as the numerical increase in 1912 to 1913.

TABLE 4.—Birth, Death and Marriage Totals, with Increase, for Counties: 1913 and 1912.

County	Births		Deaths		Marriages		Increase 1912 to 1913		
	1913	1912	1913	1912	1913	1912	Births	Deaths	Marriages
CALIFORNIA -----	43,852	39,330	38,599	36,709	31,383	31,276	4,522	1,890	107
Alameda -----	4,406	3,898	3,613	3,581	2,874	2,821	513	32	58
Alpine -----	6	3	3	3		2	3	†	*
Amador -----	108	92	152	114	64	62	16	38	2
Butte -----	461	473	367	406	223	252	*	*	*
Calaveras -----	104	97	111	98	29	35	7	13	*
Colusa -----	96	97	87	97	34	32	*	*	2
Contra Costa -----	632	483	396	331	239	210	149	65	29
Del Norte -----	24	31	30	31	24	21	*	*	3
El Dorado -----	92	106	119	129	39	44	*	*	*
Fresno -----	1,623	1,678	1,106	1,044	964	973	*	62	*
Glenn -----	113	127	63	68	64	66	*	*	*
Humboldt -----	406	475	422	391	231	329	*	31	*
Imperial -----	257	184	266	156	205	154	73	110	51
Inyo -----	15	9	44	41	50	26	6	3	24
Kern -----	620	541	524	528	423	464	79	*	*
Kings -----	249	243	203	188	188	239	6	15	*
Lake -----	79	76	97	100	35	37	3	*	*
Lassen -----	45	46	74	37	36	37	*	37	*
Los Angeles -----	11,907	10,408	9,705	8,800	7,584	7,490	1,559	815	94
Madera -----	153	125	103	68	89	93	28	35	*
Marin -----	219	251	278	253	1,069	1,294	*	25	*
Mariposa -----	25	23	28	23	5	8	2	5	*
Mendocino -----	338	204	325	332	180	198	134	*	*
Merced -----	276	270	186	176	147	188	6	10	9
Modoc -----	86	79	46	32	53	58	9	14	*
Mono -----	2	8	5	11	2	6	*	*	*
Monterey -----	348	308	320	274	168	202	40	46	*
Napa -----	166	174	535	528	189	159	*	7	30
Nevada -----	133	160	235	222	76	91	*	13	*
Orange -----	721	638	541	515	1,359	1,290	83	26	69
Placer -----	320	228	301	214	99	111	92	87	*
Plumas -----	50	55	59	48	26	25	*	11	1
Riverside -----	575	553	460	510	415	448	22	*	*
Sacramento -----	1,584	1,338	1,301	1,212	1,142	1,142	246	89	†
San Benito -----	132	136	92	86	50	76	*	6	*
San Bernardino -----	999	927	1,048	1,042	690	650	72	6	30
San Diego -----	1,574	1,079	1,397	1,294	1,410	1,134	496	103	276
San Francisco -----	7,552	6,954	7,002	6,766	5,940	6,102	598	236	*
San Joaquin -----	715	601	954	1,088	692	620	114	*	72
San Luis Obispo -----	283	268	205	206	136	185	15	†	1
San Mateo -----	479	431	315	305	331	335	48	10	*
Santa Barbara -----	429	464	353	360	314	297	*	*	17
Santa Clara -----	1,427	1,355	1,444	1,389	1,024	1,004	72	55	20
Santa Cruz -----	395	388	370	373	253	270	7	*	*
Shasta -----	226	238	192	182	141	121	*	10	20
Sierra -----	30	33	46	40	11	11	*	6	†
Siskiyou -----	207	224	205	167	164	143	*	38	21
Solano -----	353	347	371	315	174	164	6	56	10
Sonoma -----	704	540	735	712	408	427	164	23	*
Stanislaus -----	529	558	330	331	230	239	*	*	*
Sutter -----	142	89	76	66	36	23	53	10	8
Tehama -----	136	113	143	146	109	106	23	*	3
Trinity -----	29	29	43	61	14	10	†	*	4
Tulare -----	613	521	415	393	340	324	92	22	16
Tuolumne -----	47	44	133	130	50	50	3	3	†
Ventura -----	247	263	260	260	132	214	*	†	*
Yolo -----	178	147	179	193	125	93	31	*	32
Yuba -----	125	105	136	149	94	71	20	37	23

*Decrease.

†No change.

It appears from this table that in 1912 to 1913 the birth registration increased in thirty-seven counties, remained stationary in one, and decreased in twenty. The death total rose in thirty-eight counties, stood still in three, and fell off in seventeen. The marriages increased in only twenty-seven counties, showed no change in three, and even decreased in twenty-eight.

For the thirty-seven counties showing increases in births the rates of gain ranged as follows: Alpine, 100.0; Inyo, 66.7; Mendocino, 65.7; Sutter, 59.6; San Diego, 45.9; Placer, 40.4; Imperial, 39.7; Contra Costa, 30.8; Sonoma, 30.4; Madera, 22.4; Yolo, 21.1; Tehama, 20.4; San Joaquin and Yuba, each 19.0; Sacramento, 18.4; Tulare, 17.7; Amador, 17.4; Los Angeles, 15.0; Kern, 14.6; Alameda, 13.2; Monterey and Orange, each 13.0; Modoc, 11.4; San Mateo, 11.1; Mariposa, 8.7; San Francisco, 8.6; San Bernardino, 7.8; Calaveras, 7.2; Tuolumne, 6.8; San Luis Obispo, 5.6; Santa Clara, 5.3; Riverside, 4.0; Lake, 3.9; Kings, 2.5; Merced, 2.2; Santa Cruz, 1.8; and Solano, 1.7.

For the thirty-eight counties reporting more deaths in 1913 than in 1912, the per cents of increase were as follows: Lassen, 100.0; Imperial, 70.5; Madera, 51.5; Modoc, 43.8; Placer, 40.7; Amador, 33.3; Yuba, 24.8; Plumas, 22.9; Siskiyou, 22.8; Mariposa, 21.7; Contra Costa, 19.6; Solano, 17.8; Monterey, 16.8; Sutter, 15.2; Sierra, 15.0; Calaveras, 13.3; Marin, 9.9; Los Angeles, 9.2; Kings and San Diego, each 8.0; Humboldt, 7.9; Inyo and Sacramento, each 7.3; San Benito, 7.0; Fresno and Nevada, each 5.9; Merced, 5.7; Tulare, 5.6; Shasta, 5.5; Orange, 5.0; Santa Clara, 4.0; San Francisco, 3.5; San Mateo, 3.3; Sonoma, 3.2; Tuolumne, 2.3; Napa, 1.3; Alameda, 0.9; and San Bernardino, 0.6.

The per cents of increase in marriages for the twenty-seven counties showing gains in 1912 to 1913 were as follows: Inyo, 92.3; Trinity, 40.0; Yolo, 34.4; Imperial, 33.1; Yuba, 32.4; Sutter, 28.6; San Diego, 24.3; Napa, 18.9; Shasta, 16.5; Siskiyou, 14.7; Del Norte, 14.3; Contra Costa, 13.8; San Joaquin, 11.6; Merced, 6.5; Colusa, 6.3; Solano, 6.1; Santa Barbara, 5.7; Orange, 5.3; Tulare, 4.9; San Bernardino, 4.6; Plumas, 4.0; Amador, 3.2; Tehama, 2.8; Santa Clara, 2.0; Alameda, 1.9; Los Angeles, 1.3; and San Luis Obispo, 0.5.

Cities.—Birth and death totals are available only for freeholders' charter cities of which there were thirty-two in 1913, thirty-one in 1912, twenty-nine in 1911, twenty-six in 1910 and 1909, and twenty-four in 1908 and 1907. The additional city, San Rafael, shown for 1913 but not for 1912, reported only 39 births and 92 deaths, so that the totals for thirty-two cities in 1913 and thirty-one in 1912 are quite closely comparable. The following table presents birth and death totals for the several chartered cities in 1913 and 1912, together with the number and per cent of increase in each case.

TABLE 5.—Birth and Death Totals, with Increase, for Individual Cities and Rest of State: 1913 and 1912.

City	Births		Deaths		Increase 1912 to 1913			
	1913	1912	1913	1912	Number		Per cent	
					Births	Deaths	Births	Deaths
CALIFORNIA	43,862	39,380	38,599	36,709	4,522	1,890	11.5	5.1
Freeholders' charter cities	27,769	24,827	23,519	22,322	2,982	1,197	11.8	5.4
<i>Northern California</i>								
Eureka	218	262	256	217	*	39	*	18.0
Napa	80	84	117	92	*	25	*	27.2
Petaluma	130	79	85	90	51	*	64.6	*
Santa Rosa	184	173	146	140	11	6	6.4	4.3
Grass Valley	24	42	71	62	*	9	*	14.5
<i>Central California</i>								
San Francisco	7,562	6,954	7,002	6,766	598	236	8.6	3.5
Alameda	372	357	290	325	15	*	4.2	*
Berkeley	737	629	456	439	108	17	17.2	3.9
Oakland	2,964	2,606	2,197	2,139	849	58	13.4	2.7
Richmond	297	283	159	135	64	24	27.5	17.8
San Rafael	39	92	92	39	92	92	*	*
Monterey	69	75	67	66	*	1	*	1.5
Salinas	58	71	74	57	*	17	*	29.8
San Luis Obispo	106	124	101	108	*	*	*	*
Palo Alto	34	49	31	43	*	*	*	*
San Jose	586	523	452	472	63	*	12.0	*
Santa Cruz	121	141	174	182	*	*	*	*
Watsonville	187	162	90	98	25	*	15.4	*
Fresno	656	660	420	383	*	37	*	9.7
Sacramento	1,283	1,080	1,108	1,082	208	76	18.8	7.4
Stockton	237	313	460	596	*	*	*	*
Vallejo	200	182	170	136	18	34	9.9	25.0
Modesto	120	131	165	127	*	38	*	29.9
<i>Southern California</i>								
Los Angeles	8,216	7,262	6,198	5,665	954	533	13.1	9.4
Long Beach	450	346	482	324	104	156	30.1	48.8
Pasadena	638	554	470	534	84	*	15.2	*
Pomona	150	172	155	152	*	3	*	2.0
Santa Monica	190	143	176	168	47	8	32.9	4.8
Riverside	282	279	231	270	3	*	1.1	*
San Bernardino	247	190	323	296	57	25	30.0	8.4
San Diego	1,171	762	1,073	987	409	86	53.7	8.7
Santa Barbara	171	190	228	234	*	*	*	*
Rest of State	16,068	14,508	15,080	14,387	1,590	663	11.0	4.8

*Decrease.

For chartered cities as a class the birth total was 27,759 in 1913 and 24,827 in 1912, the gain being 2,932, or 11.8 per cent. The death total for cities was 23,519 in 1913 and 22,322 in 1912, the increase being 1,197, or 5.4 per cent.

For all the rest of the State the birth total was 16,093 in 1913 and 14,503 in 1912 (a gain of 1,590, or 11.0 per cent), while the death total was 15,080 in 1913 and 14,387 in 1912 (an increase of 693, or 4.8 per cent). The absolute and relative gains in both birth and death totals, especially births, were greater for chartered cities as a class than for the rest of California as a population group.

Of the thirty-one chartered cities shown for both 1913 and 1912, eighteen reported increases in birth registration for 1913 over 1912, while thirteen indicated decreases. Altogether twenty of the thirty-one cities reported more deaths in 1913 than in 1912 while eleven showed fewer deaths in the later year.

For the eighteen freeholders' chartered cities showing increases in birth registration the rates of gain ranged as follows: Petaluma, 64.6; San Diego, 53.7; Santa Monica, 32.9; Long Beach, 30.1; San Bernardino, 30.0; Richmond, 27.5; Sacramento, 18.8; Berkeley, 17.2; Watsonville, 15.4; Pasadena, 15.2; Oakland, 13.4; Los Angeles, 13.1; San Jose, 12.0; Vallejo, 9.9; San Francisco, 8.6; Santa Rosa, 6.4; Alameda, 4.2; and Riverside, 1.1.

For the twenty chartered cities reporting increased death totals the per cents of increase were as follows: Long Beach, 48.8; Modesto, 29.9; Salinas, 29.8; Napa, 27.2; Vallejo, 25.0; Eureka, 18.0; Richmond, 17.8; Grass Valley, 14.5; Fresno, 9.7; Los Angeles, 9.4; San Diego, 8.7; San Bernardino, 8.4; Sacramento, 7.4; Santa Monica, 4.8; Santa Rosa, 4.3; Berkeley, 3.9; San Francisco, 3.5; Oakland, 2.7; Pomona, 2.0; and Monterey, 1.5.

BIRTH AND DEATH TOTALS COMPARED.

Geographic Divisions.—Comparison of the birth and death totals for geographic divisions in 1913 and 1912, given in Table 6, shows that the birth registration exceeded the death total each year for Los Angeles, for San Francisco and other divisions of Central California, and for the interior counties of Northern California, as well as in 1913 alone for the counties south of Tehachapi outside Los Angeles. The excess of deaths over births shown for the coast counties of Northern California both years was considerably less in 1913 than in 1912. Improvement in the completeness of birth registration is also indicated by the fact that for the many geographic divisions reporting each year more births than deaths, the excess of births over deaths was generally greater both absolutely and relatively in 1913 than in 1912. Hence the excess of births over deaths for California as a whole was no less than 5,253, or 13.6 per cent, in 1913 against only 2,621, or 7.1 per cent, in the preceding year. The detailed figures are as follows:

TABLE 6.—Birth and Death Totals Compared, for Geographic Divisions: 1913 and 1912.

Geographic Division	1913		1912		Excess of births over deaths			
	Births	Deaths	Births	Deaths	Number		Per cent	
					1913	1912	1913	1912
THE STATE -----	43,852	38,569	39,330	36,709	5,253	2,021	13.6	7.1
<i>Northern California</i> -----	3,918	4,267	3,596	4,029	*349	*433	*8.2	*10.7
Coast counties -----	1,746	2,187	1,529	2,155	*441	*626	*20.2	*29.0
Interior counties -----	2,172	2,080	2,067	1,874	92	193	4.4	10.3
<i>Central California</i> -----	23,165	20,302	21,218	19,653	2,863	1,565	14.1	8.0
San Francisco -----	7,552	7,002	6,954	6,766	560	183	7.9	2.8
Other bay counties -----	5,736	4,802	5,068	4,470	1,134	588	24.6	13.2
Coast counties -----	2,585	2,431	2,455	2,332	154	123	6.3	5.3
Interior counties -----	7,292	6,267	6,751	6,085	1,025	666	16.4	10.9
<i>Southern California</i> -----	16,769	14,080	14,516	13,027	2,739	1,489	19.5	11.4
Los Angeles -----	11,967	9,705	10,408	8,890	2,262	1,518	23.3	17.1
Other counties -----	4,802	4,325	4,108	4,137	477	*29	11.0	*0.7
<i>Northern and Central California</i> -----	27,083	24,569	24,314	23,682	2,514	1,132	10.2	4.8
Coast counties -----	17,619	16,222	15,996	15,723	1,397	273	8.6	1.7
Interior counties -----	9,464	8,347	8,318	7,959	1,117	859	13.4	10.8
Metropolitan area -----	13,288	11,604	12,012	11,236	1,684	776	14.5	6.9
Rural counties -----	13,795	12,965	12,302	12,446	830	356	6.4	2.9

*Excess of deaths over births.

Cities.—Table 7 presents similar figures for the chartered cities (numbering thirty-two in 1913 and thirty-one in 1912) and for the rest of California.

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TABLE 7.—Birth and Death Totals Compared, for Individual Cities and Rest of State: 1913 and 1912.

City	1913		1912		Excess of births over deaths			
	Births	Deaths	Births	Deaths	Number		Per cent	
					1913	1912	1913	1912
CALIFORNIA	43,852	38,599	39,330	36,709	5,253	2,621	13.6	7.1
Freeholders' charter cities	27,759	23,519	24,827	22,322	4,240	2,505	18.0	11.2
<i>Northern California</i>								
Eureka	218	256	262	217	*	45	*	20.7
Napa	80	117	84	92	*	*	*	*
Petaluma	130	85	79	90	45	*	52.9	*
Santa Rosa	184	146	173	140	38	33	26.0	23.6
Grass Valley	24	71	42	62	*	*	*	*
<i>Central California</i>								
San Francisco	7,552	7,002	6,954	6,766	550	188	7.9	2.8
Alameda	372	290	357	325	82	32	28.3	9.8
Berkeley	737	456	629	439	281	190	61.6	43.3
Oakland	2,954	2,197	2,605	2,139	757	466	34.5	21.8
Richmond	297	159	233	135	138	98	86.8	72.6
San Rafael	39	92	*	*	*	*	*	*
Monterey	69	67	75	66	2	9	3.0	13.6
Salinas	58	74	71	57	*	14	*	24.6
San Luis Obispo	106	101	124	108	5	16	5.0	14.8
Palo Alto	34	31	49	43	3	6	9.7	14.0
San Jose	586	452	523	472	134	51	29.6	10.8
Santa Cruz	121	174	141	182	*	*	*	*
Watsonville	187	90	162	93	97	69	107.8	74.2
Fresno	656	420	660	383	236	277	56.2	72.3
Sacramento	1,283	1,108	1,080	1,032	175	48	15.8	4.7
Stockton	237	460	313	586	*	*	*	*
Vallejo	200	170	182	136	30	46	17.6	33.8
Modesto	120	165	131	127	*	4	*	3.1
<i>Southern California</i>								
Los Angeles	8,216	6,198	7,262	5,665	2,018	1,597	32.6	28.2
Long Beach	450	482	346	324	*	22	*	6.8
Pasadena	638	470	554	534	168	20	35.7	3.7
Pomona	150	155	172	152	*	20	*	13.2
Santa Monica	190	176	143	168	14	*	8.0	*
Riverside	282	231	279	270	51	9	22.1	3.3
San Bernardino	247	323	190	298	*	*	*	*
San Bernardino	1,171	1,073	762	987	98	*	9.1	*
Santa Barbara	171	228	190	234	*	*	*	*
Rest of State	16,093	15,080	14,503	14,387	1,013	116	6.7	0.8

*Excess of deaths over births.

For chartered cities as a class the excess of births over deaths was 24.0, or 18.0 per cent, in 1913 as compared with 2,505, or 11.2 per cent, in 1912. Similarly, for all the rest of the State the births exceeded the deaths by 1,013, or 6.7 per cent, in 1913 against merely 116, or 0.8 per cent, in 1912. The much greater excess of births over deaths shown year for cities as a class than for the rest of the State taken together indicates that there is more complete registration of births in cities than outside them.

Of the thirty-two chartered cities shown for 1913, twenty reported more births than deaths, while of the thirty-one such cities in 1912 only two showed an excess of births over deaths. Altogether seventeen cities reported more births than deaths in both 1913 and 1912. These cities were as follows: Santa Rosa in Northern California;

San Francisco, Alameda, Berkeley, Oakland, Richmond, Monterey, San Luis Obispo, Palo Alto, San Jose, Watsonville, Fresno, Sacramento, and Vallejo in Central California; and Los Angeles, Pasadena, and Riverside in Southern California. The three additional cities showing an excess of births over deaths for 1913 alone were Petaluma, Santa Monica and San Diego.

Reference to Table 7 shows that the relative excess of births over deaths was notably great in certain cities with per cents as follows for 1913 and 1912, respectively: Watsonville, 107.8 and 74.2; Richmond, 86.8 and 72.6; Fresno, 56.2 and 72.3; Berkeley, 61.6 and 43.3; Oakland, 34.5 and 21.8; Los Angeles, 32.6 and 28.2; Santa Rosa, 26.0 and 23.6; San Jose, 29.6 and 10.8; Alameda, 28.3 and 9.8; Vallejo, 17.6 and 33.8; and Sacramento, 15.8 and 4.7. The relative excess of births over deaths was particularly great for other cities, also, for 1913 alone, as follows: Petaluma, 52.9; Pasadena, 35.7; and Riverside, 22.1.

It may be noted that of the total birth registration for all California altogether 63.3 per cent was reported by the thirty-two chartered cities in 1913 and 63.1 per cent by the thirty-one such cities in 1912. Similarly, of the total deaths in the State some 60.9 per cent occurred in the thirty-two chartered cities in 1913 and 60.8 per cent in the thirty-one cities of this class in 1912. It appears, therefore, from the greater per cent of total births than of total deaths shown for freeholders' charter cities, as well as from the much greater excess of births over deaths within cities than outside them, that birth registration is somewhat more complete within these leading cities than in the outside rural territory.

BIRTH, DEATH AND MARRIAGE RATES.

Population Estimates.—Since the publication of the Federal Census results for 1910, population estimates can be obtained with strict accuracy on the basis of county and city totals for June 1, 1900, and April 15, 1910, the estimates being made for the sake of uniformity as of July 1, or the middle of each year. The estimated midyear population for both 1910 and 1911 has been calculated on the assumption that the numerical increase has been the same each month since April 15, 1910, as it was each month between June 1, 1900, and April 15, 1910. The average monthly increase is obtained by dividing the increase for the whole decade by 118.5 (the number of months between June 1, 1900, and April 15, 1910), and the total increase to July 1, 1912, is then got by multiplying by 26.5 (the number of months between April 15, 1910, and July 1, 1912), the increase to July 1, 1913, being obtained similarly by multiplying by 38.5 (the number of months between April 15, 1910, and July 1, 1913). The estimated midyear population for 1912 and 1913 is found, finally, by adding to the population enumerated April 15, 1910, the estimated increase to July 1, 1912 or 1913, as the case may be.

For the ten counties with few inhabitants showing decreases between 1900 and 1910, the census population of April 15, 1910, has been taken as the midyear estimate for both 1912 and 1913. Moreover, special estimates have been obtained from the Federal Census Bureau for six

cities (Berkeley, Oakland, Fresno, Los Angeles, Pasadena and Sacramento) to cover corrections for territory annexed between 1900 and 1910 or since 1910.

The estimated midyear population for Alameda County, for instance, was obtained as follows:

Population enumerated April 15, 1910-----	246,131
Population enumerated June 1, 1900-----	130,197
Increase, June 1, 1900, to April 15, 1910 (118.5 months)-----	115,934
Increase, April 15, 1910, to July 1, 1913 ($\times 38.5 \div 118.5$)-----	57,666
Increase, April 15, 1910, to July 1, 1912 ($\times 26.5 \div 118.5$)-----	25,926
Estimated midyear population, 1913-----	283,797
Estimated midyear population, 1912-----	272,057
Similarly, the estimated midyear population for Alameda city was obtained thus:	
Population enumerated April 15, 1910-----	23,333
Population enumerated June 1, 1900-----	16,464
Increase, June 1, 1900, to April 15, 1910 (118.5 months)-----	6,919
Increase, April 15, 1910, to July 1, 1913 ($\times 38.5 \div 118.5$)-----	2,248
Increase, April 15, 1910, to July 1, 1912 ($\times 26.5 \div 118.5$)-----	1,547
Estimated midyear population, 1913-----	25,631
Estimated midyear population, 1912-----	24,930

Geographic Divisions.—The following table gives the estimated midyear population, births, deaths and marriages, and rates per 1,000 population for the several geographic divisions in both 1913 and 1912.

TABLE 8.—Estimated Midyear Population, Births, Deaths and Marriages, and Rates per 1,000 Population, for Geographic Divisions: 1913 and 1912.

Geographic division	Estimated midyear population	Births	Deaths	Marriages	Rate per 1,000 population		
					Births	Deaths	Marriages
1913							
THE STATE-----	2,671,491	43,852	33,599	31,383	16.4	14.4	11.7
<i>Northern California</i> -----	813,510	3,918	4,267	2,287	12.5	13.6	7.3
Coast counties-----	144,855	1,746	2,187	1,131	12.1	15.1	7.8
Interior counties-----	168,655	2,172	2,080	1,156	12.9	12.3	6.9
<i>Central California</i> -----	1,461,411	23,165	20,302	16,947	15.9	13.9	11.6
San Francisco-----	440,996	7,552	7,002	5,940	17.1	15.9	13.5
Other bay counties-----	379,364	5,733	4,602	4,583	15.1	12.1	12.1
Coast counties-----	173,223	2,585	2,431	1,681	14.9	14.0	9.7
Interior counties-----	467,823	7,292	6,267	4,743	15.6	13.4	10.1
<i>Southern California</i> -----	896,570	16,769	14,030	12,149	18.7	15.6	13.6
Los Angeles-----	612,592	11,967	9,705	7,584	19.5	15.8	12.4
Other counties-----	233,978	4,802	4,325	4,565	16.9	15.2	16.1
<i>Northern and Central California</i> -----	1,774,921	27,063	24,569	19,234	15.3	13.8	10.8
Coast counties-----	1,138,443	17,619	16,222	13,335	15.5	14.2	11.7
Interior counties-----	636,478	9,444	8,347	5,899	14.9	13.1	9.3
Metropolitan area-----	820,300	13,288	11,604	10,523	16.2	14.1	12.8
Rural counties-----	954,561	13,766	12,965	8,711	14.5	13.6	9.1
1912							
THE STATE-----	2,579,874	39,330	36,709	31,276	15.2	14.2	12.1
<i>Northern California</i> -----	308,819	3,596	4,029	2,323	11.6	13.0	7.5
Coast counties-----	142,477	1,529	2,155	1,176	10.7	15.1	8.3
Interior counties-----	166,342	2,067	1,874	1,152	12.4	11.3	6.9
<i>Central California</i> -----	1,419,761	21,218	19,653	17,271	14.9	13.8	12.2
San Francisco-----	433,490	6,954	6,768	6,102	16.0	15.6	14.1
Other bay counties-----	363,324	5,053	4,470	4,710	13.9	12.3	12.9
Coast counties-----	169,495	2,455	2,332	1,737	14.5	13.8	10.2
Interior counties-----	452,952	6,751	6,085	4,722	14.9	13.4	10.4
<i>Southern California</i> -----	851,294	14,516	13,027	11,677	17.1	15.3	13.7
Los Angeles-----	573,786	10,408	8,890	7,490	18.0	15.4	12.9
Other counties-----	272,508	4,108	4,137	4,187	15.1	15.2	15.4
<i>Northern and Central California</i> -----	1,723,530	24,814	23,682	19,599	14.4	13.7	11.3
Coast counties-----	1,109,286	15,966	15,723	13,725	14.4	14.2	12.4
Interior counties-----	619,294	8,813	7,959	5,874	14.2	12.9	9.5
Metropolitan area-----	797,314	12,012	11,236	10,812	15.1	14.1	13.6
Rural counties-----	931,266	12,802	12,446	8,787	13.7	13.4	9.4

For California in 1913 and 1912 the estimated midyear population was 2,671,491 and 2,579,874, respectively, giving birth rates of 16.4 and 15.2, death rates of 14.4 and 14.2, and marriage rates of 11.7 and 12.1.

It may be added that for preceding years the estimated midyear population of California was as follows: 1911, 2,488,256; 1910, 2,396,639; 1909, 2,306,001; 1908, 2,215,615; 1907, 2,125,240; and 1906, 2,034,861. For populations thus estimated the birth rates were 14.0 for 1911, 13.4 for both 1910 and 1909, 12.7 for 1908, 11.6 for 1907, and 10.3 for 1906; the death rates were, respectively, 13.7, 13.5, 13.4, 14.1, 14.6, and 14.4; and the marriage rates were, respectively, 11.0, 10.4, 9.9, 9.8, 10.8, and 10.5.

The birth rates for 1913 and 1912 are thus by far the highest in the whole eight-year period, while the death rates for 1913 and 1912 are about the same as for 1906 to 1908, and the marriage rates for 1913 and 1912, like the birth rates, are above the rates for all preceding years from 1906 to 1911.

The birth rates for 1913 and 1912, as for previous years, are somewhat higher for the territory south of Tehachapi than for that to the north, being 18.7 and 17.1 for Southern California against 15.3 and 14.4 for Northern and Central California together. The birth rates for Central California alone were 15.9 in 1913 and 14.9 in 1912, but only 12.5 and 11.6 for Northern California alone. Each year the birth rate was somewhat higher for the coast counties than for the interior counties north of Tehachapi. The rates were also much higher both years for the metropolitan area, comprising San Francisco and the other bay counties, 16.2 and 15.1, than for the rural counties of Northern and Central California, 14.5 and 13.7. The rates were likewise higher for San Francisco, 17.1 in 1913 and 16.0 in 1912, than for the other bay counties, 15.1 and 13.9, respectively. The birth rates were also higher for Los Angeles, 19.5 and 18.0, than for the rest of Southern California, 16.9 and 15.1.

The death rates for 1913 and 1912 are slightly more for Southern California, 15.6 and 15.3, than for the territory north of Tehachapi, 13.8 and 13.7, being 13.9 and 13.8 for Central California alone and 13.6 and 13.0 for Northern California. Each year the death rate was somewhat higher for the coast than for the interior counties north of Tehachapi. In both years, moreover, the death rates were higher for the metropolitan area (14.1 each year) than for the rural counties of Northern and Central California (13.6 in 1913 and 13.4 in 1912); for San Francisco, the metropolis (15.9 and 15.6), than for the group of other bay counties (12.1 and 12.3); and for Los Angeles (15.8 and 15.4) than for the rest of Southern California (15.2 each year).

The marriage rates for 1913 and 1912 are somewhat higher for the territory south of Tehachapi than for that to the north, being 13.6 and 13.7 for Southern California against 10.8 and 11.3 for Northern and Central California together. The marriage rates were 11.6 in 1913 and 12.2 in 1912 for Central California as compared with only 7.3 and 7.5 for Northern California. Each year the rate was much higher for the coast counties than for the interior counties north of Tehachapi. The marriage rates were also higher both years for the

metropolitan area (12.8 and 13.6) than for the rural counties of Northern and Central California (9.1 and 9.4) and were likewise higher for San Francisco alone (13.5 and 14.1) than for the group of other bay counties (12.1 and 12.9). On the other hand, however, the rates were lower for Los Angeles (12.4 and 12.9) than for the rest of Southern California (16.1 and 15.4).

Counties.—Table 9 presents similar figures on birth, death and marriage rates per 1,000 estimated midyear population for counties arranged alphabetically for the sake of ready reference.

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TABLE 9.—Estimated Midyear Population, Births, Deaths and Marriages, and Rates per 1,000 Population, for Counties, 1913 and 1912.

County	1913				1912									
	Estimated midyear population	Births	Deaths	Marriages	Rate per 1,000 population	Births	Deaths	Marriages	Rate per 1,000 population					
		Births	Deaths	Marriages	Births	Deaths	Marriages	Births	Deaths	Marriages				
CALIFORNIA	2,671,491	43,852	38,599	81,938	16.4	14.4	11.7	2,579,874	39,830	36,709	81,276	15.2	14.2	12.1
Alameda	238,797	4,406	3,613	2,874	18.5	15.2	12.1	272,057	3,888	3,581	2,821	14.3	13.2	10.4
Alpine	309	6	3		19.4	9.7		309	3	3		9.7	6.5	6.5
Amador	9,086	108	152	64	11.9	16.7	7.0	9,086	92	114	62	10.1	12.5	6.8
Butte	30,610	461	367	223	15.1	12.0	7.3	29,578	473	406	252	16.0	13.7	8.5
Calaveras	9,171	104	111	29	11.3	12.1	3.2	9,171	97	98	85	10.6	10.7	9.3
Colusa	7,852	96	87	34	12.2	11.1	4.3	7,814	97	97	32	12.4	12.4	4.1
Contra Costa	36,102	632	396	239	17.5	11.0	6.6	34,722	483	331	210	13.9	9.5	6.0
Del Norte	2,420	24	30	24	9.9	12.4	9.9	2,419	31	31	21	12.8	12.8	8.7
El Dorado	7,492	92	119	39	12.3	15.9	5.2	7,492	106	129	44	14.1	17.2	5.9
Fresno	87,686	1,623	1,106	954	18.5	12.6	10.8	84,109	1,678	1,044	973	20.0	12.4	11.5
Glenn	7,829	113	68	64	14.4	8.0	8.2	7,624	127	68	66	16.7	8.9	8.7
Humboldt	36,051	406	422	281	11.3	11.7	7.8	35,367	475	391	329	13.4	11.1	9.3
Imperial	15,963	257	266	205	16.1	16.6	12.8	15,247	184	156	154	12.1	10.2	10.1
Inyo	7,818	15	44	50	1.9	5.6	6.4	7,555	9	41	26	1.2	5.4	3.4
Kern	44,614	620	524	423	13.9	11.7	9.5	42,464	541	528	464	12.7	12.4	10.9
Kings	18,296	249	203	188	13.6	11.1	10.3	17,652	243	188	239	13.8	10.7	13.5
Lake	5,528	79	97	35	14.3	17.6	6.3	5,528	76	100	37	13.8	18.1	6.7
Lassen	4,897	45	74	36	9.2	15.1	7.4	4,897	46	37	37	9.5	7.6	7.6
Los Angeles	612,592	11,967	9,705	7,684	19.5	15.8	12.4	578,786	10,408	8,860	7,490	18.0	15.4	12.9
Madera	9,019	153	108	89	17.0	11.4	9.9	8,816	125	68	68	14.2	7.7	10.5
Marin	28,172	219	278	1,089	7.8	9.9	38.7	27,219	251	253	1,294	9.2	9.3	47.5
Mariposa	8,966	25	28	5	6.3	7.1	1.3	8,956	23	23	8	5.8	5.8	2.0
Mendocino	25,054	333	325	180	13.5	13.0	7.2	24,704	204	332	183	8.3	13.4	7.8
Merced	17,076	276	186	147	16.2	10.9	8.6	16,475	270	176	138	16.4	10.7	8.4
Modoc	6,553	83	46	53	13.4	7.0	8.1	6,440	79	32	58	12.3	5.0	9.0
Mono	2,042	2	5	2	1.0	2.4		2,042	8	74	6	3.9	5.4	2.9
Monterey	25,694	345	320	168	13.5	12.5	6.5	25,212	308	274	202	12.2	10.9	8.0
Napa	20,888	166	535	180	7.9	25.6	9.0	20,540	174	528	159	8.5	25.7	7.7
Nevada	14,865	133	235	76	8.9	15.7	5.1	14,955	160	222	91	10.7	14.8	6.1
Orange	39,925	721	541	1,859	18.4	13.8	34.6	37,732	688	515	1,290	16.9	13.9	34.2

BUREAU OF VITAL STATISTICS.

Placer	19,033	301	89	16.8	15.8	4.7	18,785	228	214	111	12.1	11.4	5.9
Pumas	5,455	50	26	9.2	10.8	4.8	5,394	55	48	25	10.2	8.9	4.6
Riverside	40,154	460	415	14.8	11.5	10.8	38,453	553	510	448	13.8	13.3	11.7
Sacramento	74,918	1,801	1,142	21.1	17.4	15.2	72,701	1,838	1,212	1,142	18.4	16.7	15.7
San Benito	8,498	92	50	15.5	10.8	5.9	8,356	136	86	76	16.3	10.8	9.1
San Bernardino	66,055	999	1,048	15.1	15.9	10.8	63,141	927	1,042	680	14.7	16.5	10.8
San Diego	72,323	1,574	1,410	21.8	19.3	19.5	68,981	1,079	1,294	1,184	15.6	18.8	10.4
San Francisco	440,966	7,552	5,940	17.1	15.9	13.5	433,490	6,964	6,708	6,102	16.0	15.6	14.1
San Joaquin	55,995	715	692	12.8	17.1	12.4	54,148	601	1,068	620	11.1	20.1	11.5
San Luis Obispo	20,275	283	196	14.0	10.1	9.2	19,997	268	205	185	13.4	10.3	9.3
San Mateo	31,298	479	381	15.3	10.1	12.2	29,826	431	305	386	14.5	10.2	12.9
Santa Barbara	30,598	429	314	14.0	11.5	10.8	29,707	464	380	297	15.6	12.1	10.0
Santa Clara	91,117	1,427	1,444	15.7	15.8	11.2	88,755	1,355	1,889	1,004	15.3	15.6	11.3
Santa Cruz	27,644	895	870	14.8	13.4	9.2	27,175	988	878	270	14.8	13.9	9.9
Shasta	19,440	228	141	11.6	9.9	7.3	19,278	238	182	121	12.3	9.4	6.8
Sierra	4,124	30	11	7.3	11.2	2.7	4,116	33	40	11	8.0	9.7	2.7
Siskiyou	19,398	297	205	10.7	10.6	8.5	19,212	224	167	143	11.7	8.7	7.4
Solano	28,669	353	174	12.3	12.9	6.1	28,323	347	315	164	12.3	11.1	5.8
Sonoma	51,515	704	785	13.6	14.2	7.9	50,611	540	712	427	10.7	14.1	8.4
Stanislaus	26,737	529	380	19.8	12.3	8.6	25,423	558	331	239	21.9	13.0	9.4
Sutter	6,472	142	76	21.9	11.7	5.6	6,427	89	66	28	13.8	10.3	4.4
Tehama	11,533	186	109	11.8	12.4	9.5	11,492	113	146	106	9.8	12.7	9.2
Trinity	3,301	29	43	8.8	13.0	4.2	3,301	29	61	10	8.8	13.5	3.0
Tulare	40,984	613	340	15.0	10.1	8.8	39,256	521	398	324	13.3	10.0	8.8
Tuolumne	9,979	47	50	4.7	13.3	5.0	9,979	44	130	50	4.4	13.0	5.0
Ventura	19,640	247	280	12.6	13.2	9.3	19,237	268	290	214	13.7	13.5	11.1
Yolo	14,023	178	126	12.7	12.8	8.9	13,965	147	198	98	10.5	13.8	6.6
Yuba	10,504	125	94	11.9	17.7	8.9	10,360	106	149	71	10.1	14.4	6.9

The individual counties with birth rates above the State averages of 16.4 and 15.2 in 1913 and 1912, respectively, are as follows: Sacramento, 21.1 and 18.4; San Diego, 21.8 and 15.6; Stanislaus, 19.8 and 21.9; Los Angeles, 19.5 and 18.0; Fresno, 18.5 and 20.0; Orange, 18.4 and 16.9; and San Francisco, 17.1 and 16.0. The birth rate was also above the general average only for 1913 (16.4) in the following counties: Sutter, 21.9; Alpine, 19.4; Contra Costa, 17.5; Madera, 17.0; and Placer, 16.8. Similarly, the birth rate was above the State average for 1912 alone (15.2) in the following counties: Glenn, 16.7; Merced, 16.4; San Benito, 16.3; Butte, 16.0; Santa Barbara, 16.6; and Santa Clara, 15.3.

Among the individual counties, Napa shows the highest death rates, 25.6 for 1913 and 25.7 for 1912, this unenviable prominence being explained, however, by the many deaths of aged persons occurring at the Napa State Hospital and the Veterans' Home of California located in this county of relatively small population. The death rates in 1913 and 1912, respectively, were next highest for the following counties: San Diego, 19.3 and 18.8; San Joaquin, 17.1 and 20.1; Lake, 17.6 and 18.1; Sacramento, 17.4 and 16.7; Yuba, 17.7 and 14.4; El Dorado, 15.9 and 17.2; San Bernardino, 15.9 and 16.5; San Francisco, 15.9 and 15.6; Santa Clara, 15.8 and 15.6; Los Angeles, 15.8 and 15.4; and Nevada, 15.7 and 14.8. These are the counties with death rates above the State averages of 14.4 for 1913 and 14.2 for 1912. The death rate also exceeded the general average only for 1913 (14.4) in each of the following additional counties: Amador, 16.7; Imperial, 16.6; Placer, 15.8; and Lassen, 15.1. The death rate was likewise above the State average of 14.2 for 1912 alone in Trinity, 18.5.

Among the individual counties, Marin, adjoining San Francisco, shows by far the highest marriage rates, 35.7 in 1913 and 47.5 in 1912, while Orange, adjoining Los Angeles, shows the second highest rates, 34.6 and 34.2 in 1913 and 1912, respectively. The marriage rates are also notably high for the following counties: San Diego, 19.5 and 16.4; Sacramento, 15.2 and 15.7; San Francisco, 13.5 and 14.1; Los Angeles, 12.4 and 12.9; and San Mateo, 12.2 and 12.9. These are the counties with marriage rates above both State averages, 11.7 for 1913 and 12.1 for 1912. The marriage rate was also above the State average of 11.7 for 1913 alone for Imperial (12.8) and San Joaquin (12.4) and was likewise above the general average of 12.1 only for 1912 for Kings (13.5).

The counties mentioned as having high marriage rates will be recognized generally as counties having large cities. Moreover, the marriage rates are much higher for the metropolitan area than for the rural counties north of Tehachapi. It seems, therefore, that there is a strong tendency for marriageable persons living in the country to go to an urban center to be married; if not to the metropolis itself, then to the largest city accessible for a satisfactory celebration of the event. On the other hand, there is a counter movement by which couples living in metropolitan centers like San Francisco or Los Angeles select for their place of marriage not the metropolis proper, but instead a suburban city or town. This is shown by the very great proportion of

marriages to resident inhabitants for Marin and San Mateo counties in the suburbs of San Francisco and for Orange County, adjoining Los Angeles. In short, country swains like to celebrate marriage in large cities, while couples belonging to a metropolis are apt to prefer the suburbs.

Cities.—Table 10 gives the birth and death rates per 1,000 estimated midyear population for the thirty-two freeholders' charter cities in 1913 and the thirty-one such cities in 1912, in comparison with all the rest of the State as a whole.

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TABLE 10.—Estimated Midyear Population, Births and Deaths, and Rates per 1,000 Population, for Individual Cities and Rest of State: 1913 and 1912.

City	Estimated midyear population		Births		Deaths		Rate per 1,000 population			
	1913	1912	1913	1912	1913	1912	Births		Deaths	
							1913	1912	1913	1912
CALIFORNIA.										
Freeholders' charter cities	2,671,491	2,579,874	43,852	39,330	88,599	86,709	16.4	15.2	14.4	14.2
Northern California.	1,583,390	1,464,464	27,759	24,827	23,519	22,322	18.1	17.0	15.3	15.2
Eureka	13,313	12,855	218	202	256	217	16.4	20.4	19.2	16.9
Napa	6,961	6,188	80	84	117	92	12.6	13.6	18.4	14.9
Petaluma	6,323	6,533	130	153	85	90	19.9	12.5	13.0	14.2
Santa Rosa	8,199	8,073	184	173	146	140	22.5	21.4	17.8	17.3
Grass Valley	4,520	4,520	24	42	71	62	5.3	9.3	15.7	13.7
Central California.										
San Francisco	440,996	433,490	7,552	6,954	7,002	6,766	17.1	16.0	15.9	15.6
Alameda	25,631	24,980	372	357	290	325	14.5	14.3	11.3	13.0
Berkeley	49,331	46,558	737	639	458	439	14.9	13.5	9.2	9.4
Oakland	175,901	167,401	2,954	2,605	2,197	2,139	16.9	15.6	12.5	12.8
Richmond	7,762	7,465	297	233	159	135	38.3	31.2	20.5	18.1
San Rafael	6,602	6,602	39	92	66	66	5.9	13.3	13.9	11.7
Monterey	5,955	5,933	69	75	67	66	11.6	12.6	11.3	11.7
Salinas	3,833	3,876	58	74	57	57	9.9	18.5	19.1	14.9
San Luis Obispo	5,351	5,635	106	124	101	108	18.1	22.0	17.3	19.2
Palo Alto	5,405	5,118	34	49	31	43	6.3	9.6	5.7	8.4
San Jose	31,365	30,611	586	523	452	472	18.7	17.1	14.4	16.4
Santa Cruz	12,929	12,373	121	141	122	124	9.4	11.4	13.5	14.7
Watsonville	4,744	4,651	187	162	90	98	39.4	34.8	19.0	20.0
Fresno	23,640	27,473	656	868	420	388	23.9	24.0	14.7	13.9
Sacramento	60,623	58,539	1,233	1,060	822	1,082	21.2	18.4	18.3	17.6
Stockton	25,120	24,538	237	313	460	536	9.4	12.8	18.3	23.9
Vallejo	12,487	12,065	300	322	170	138	16.1	15.0	13.7	11.2
Modesto	4,687	4,683	120	131	165	127	25.6	29.2	35.2	28.3
Southern California.										
Los Angeles	412,468	396,014	8,216	7,362	6,198	5,665	19.9	18.8	15.0	14.7
Long Beach	22,863	21,283	450	364	482	324	19.7	16.3	21.1	15.2
Pasadena	39,543	36,564	638	554	470	534	16.6	15.5	12.8	14.9
Pomona	11,723	11,254	160	172	155	152	12.8	15.3	13.2	13.5

Santa Monica	9,408	8,918	190	143	176	168	20.2	16.0	18.7	18.8
Riverside	17,564	16,881	282	279	231	270	16.1	16.6	18.2	16.0
San Bernardino	14,983	14,261	247	190	323	298	16.5	13.3	21.6	20.9
San Diego	46,686	44,471	1,171	762	1,073	967	25.1	17.1	23.0	22.2
Santa Barbara	13,307	12,763	171	190	223	234	12.9	14.9	17.1	18.8
Rest of State	1,188,101	1,115,410	16,088	14,503	15,060	14,887	14.1	13.0	13.3	12.9

The birth rate per 1,000 population is much higher for chartered cities as a class, 18.1 in 1913 and 17.0 in 1912, than for all the rest of the State, merely 14.1 and 13.0 respectively. The death rate is also somewhat higher for chartered cities, 15.3 and 15.2 in 1913 and 1912, respectively, than for the rest of California, only 13.3 and 12.9.

The birth rates exceeded the city averages of 18.1 and 17.0 for 1913 and 1912, respectively, in the following cities: Watsonville, 39.4 and 34.8; Richmond, 38.3 and 31.2; Modesto, 25.6 and 29.2; Fresno, 22.9 and 24.0; Santa Rosa, 22.9 and 24.0; San Diego, 25.1 and 17.1; Sacramento, 21.2 and 18.4; Los Angeles, 19.9 and 18.8; San Luis Obispo, 18.1 and 22.0; and San Jose, 18.7 and 17.1. The birth rate was also above the city average for 1913 alone (18.1) for Santa Monica, 20.2; Petaluma, 19.9; and Long Beach, 19.7. Similarly, the birth rate surpassed the city average only for 1912 (17.1) for Eureka, 20.4, and for Salinas, 18.5.

The death rates surpassed the city averages of 15.3 in 1913 and 15.2 in 1912 for the following cities: Modesto, 35.2 and 28.2; San Diego, 23.0 and 22.2; San Bernardino, 21.6 and 20.9; Richmond, 20.5 and 18.1; Long Beach, 21.1 and 15.2; Eureka, 19.2 and 16.9; Watsonville, 19.0 and 20.0; Santa Monica, 18.7 and 18.8; Stockton, 18.3 and 23.9; Sacramento, 18.3 and 17.6; Santa Rosa, 17.8 and 17.3; San Luis Obispo, 17.3 and 19.2; Santa Barbara, 17.1 and 18.3; and San Francisco, 15.9 and 15.6. The death rate also exceeded the city average of 15.3 in 1913 alone for Salinas (19.1), Napa (18.4), and Grass Valley (15.7). Likewise the death rate was above the city average of 15.2 only in 1912 for Riverside, 16.0, and for San Jose, 15.4.

On the other hand, the death rates were remarkably low in both 1913 and 1912 for certain cities, as follows: Palo Alto, 5.7 and 8.4; Berkeley, 9.2 and 9.4; Monterey, 11.3 and 11.7; Alameda, 11.3 and 13.0; Oakland, 12.5 and 12.8; Pasadena, 12.3 and 14.9; Pomona, 13.2 and 13.5; Petaluma, 13.0 and 14.2; Vallejo, 13.7 and 11.2; Santa Cruz, 13.5 and 14.7; and Fresno, 14.7 and 13.9. The death rates were also notably low in 1913 alone for Riverside, 13.2; San Rafael, 13.9; and San Jose, 14.4.

TABLE 11.—Deaths Reported for Registration Districts (Cities, Towns, and Rural Parts of Counties): 1913 and 1912.
(Cities or incorporated towns not reporting deaths omitted from table.)

Registration district	Deaths		Registration district	Deaths	
	1913	1912		1913	1912
CALIFORNIA	38,599	38,709	Lassen County	74	37
Alameda County	3,613	3,581	Los Angeles County	9,705	8,890
Rural	481	465	Rural	1,217	1,175
Alameda	290	325	Alhambra	75	78
Albany	10	15	Arcadia	1	—
Berkeley	456	439	Avalon	3	—
Emeryville	16	13	Azusa	23	30
Hayward	45	36	Burbank	23	14
Livermore	28	46	Claremont	17	12
Oakland	2,197	2,189	Compton	13	13
Piedmont	14	22	Covina	25	10
Pleasanton	19	15	El Monte	18	—
San Leandro	57	68	Glendale	111	85
Alpine County	3	3	Glendora	16	13
Amador County	152	114	Hermosa Beach	17	9
Rural	88	72	Huntington Park	26	23
Jackson	51	42	Inglewood	22	19
Sutter Creek	13	—	Long Beach	492	324
Butte County	367	406	Lordsburg	14	20
Rural	228	227	Los Angeles	6,198	5,665
Biggs	4	8	Manhattan Beach	4	—
Chico	77	100	Monrovia	163	163
Gridley	6	21	Pasadena	470	534
Oroville	52	50	Pomona	155	152
Calaveras County	111	98	Redondo Beach	56	42
Rural	93	98	San Fernando	23	18
Angels	18	—	San Gabriel	27	—
Colusa County	87	97	Santa Monica	176	168
Rural	68	73	Sawtelle	49	41
Colusa	19	24	Sierra Madre	51	50
Contra Costa County	396	331	South Pasadena	82	60
Rural	96	92	Venice†	54	63
Antioch	42	8	Vernon	—	2
Concord	7	7	Watts	28	25
Martinez	63	63	Whittier	65	82
Pittsburg*	29	26	Madera County	103	68
Richmond	159	135	Marin County	278	253
Del Norte County	30	31	Rural	139	137
El Dorado County	119	129	Larkspur	2	1
Rural	60	71	Mill Valley	23	23
Placerville	59	58	Ross	1	—
Fresno County	1,106	1,044	San Anselmo	4	5
Rural	617	594	San Rafael	92	63
Coalinga	27	34	Sausalito	17	24
Fresno	420	383	Mariposa County	22	23
Kingsburg	3	3	Mendocino County	325	332
Selma	39	30	Rural	214	206
Glenn County	63	63	Fort Bragg	54	64
Rural	48	55	Point Arena	5	6
Orland	5	11	Potter Valley	6	5
Willows	10	2	Ukiah	32	39
Humboldt County	422	391	Willits	14	12
Rural	154	156	Merced County	186	176
Blue Lake	5	4	Rural	132	132
Eureka	256	217	Los Banos	12	9
Fortuna	7	14	Merced	42	35
Imperial County	266	156	Modoc County	46	32
Rural	213	135	Rural	35	23
Brawley	24	8	Alturas	11	9
Calexico	18	6	Mono County	5	11
Imperial	11	7	Monterey County	320	274
Inyo County	44	41	Rural	133	116
Rural	31	32	Monterey	67	66
Bishop	13	9	Pacific Grove	46	35
Kern County	524	523	Salinas	74	57
Rural	163	172	Napa County	535	528
Bakersfield	321	327	Rural	388	423
Maricopa	11	21	Callistoga	15	7
Taft	24	6	Napa	117	92
Tehachapi	5	2	St. Helena	15	6
Kings County	203	183	Nevada County	235	222
Rural	105	92	Rural	132	124
Hanford	83	81	Grass Valley	71	62
Lemoore	15	15	Nevada City	32	36
Lake County	97	100	Orange County	541	515
Rural	76	87	Rural	192	153
Lakeport	21	13			

*Formerly Black Diamond.

†Formerly Ocean Park.

TABLE 11.—Deaths Reported for Registration Districts (Cities, Towns, and Rural Parts of Counties): 1913 and 1912—Continued.
(Cities or incorporated towns not reporting deaths omitted from table.)

Registration district	Deaths		Registration district	Deaths	
	1913	1912		1913	1912
Orange County—Continued.			Santa Clara County—Cont.		
Anahelm	73	99	Mountain View	8	14
Fullerton	49	50	Palo Alto	31	43
Huntington Beach	25	12	San Jose	452	472
Newport Beach	7	5	Santa Clara	46	59
Orange	29	40	Santa Cruz County	370	378
Santa Ana	166	156	Rural	99	94
Placer County	301	214	Boulder Creek	7	9
Rural	189	94	Santa Cruz	174	182
Auburn	22	71	Watsonville	90	98
Colfax	78	4	Shasta County	192	182
Lincoln	12	12	Rural	146	138
Rocklin	23	17	Redding	46	44
Roseville	27	16	Sierra County	46	40
Plumas County	59	48	Rural	38	34
Riverside County	480	510	Loyalton	8	6
Rural	125	163	Siskiyou County	206	107
Banning	37		Rural	137	96
Beaumont	13		Dorris	1	2
Corona	43	58	Dunsmuir	23	23
Elsinore	13	9	Etna	6	3
Riverside	231	270	Montague	1	3
San Jacinto	8	10	Yreka	37	40
Sacramento County	1,301	1,212	Solano County	371	315
Rural	193	180	Rural	106	106
Sacramento	1,108	1,032	Benicia	22	16
San Benito County	92	86	Dixon	14	6
Rural	43	43	Fairfield	13	14
Hollister	40	38	Rio Vista	12	14
San Juan	9		Sulsun	5	8
San Bernardino County	1,048	1,042	Vacaville	29	15
Rural	406	385	Vallejo	170	136
Colton	80	75	Sonoma County	735	712
Needles	4		Rural	393	397
Ontario	63	68	Cloverdale	25	12
Redlands	150	194	Healdsburg	52	35
San Bernardino	323	298	Petaluma	85	90
Upland	19	22	Santa Rosa	143	140
San Diego County	1,897	1,294	Sebastopol	26	23
Rural	131	194	Sonoma	8	15
Chula Vista	26		Stanislaus County	330	331
Coronado	23	25	Rural	104	134
East San Diego	29		Modesto	165	127
Escondido	13	25	Newman	14	12
La Mesa	14		Oakdale	25	21
National City	65	43	Turlock	22	37
Oceanside	13	20	Sutter County	76	66
San Diego	1,073	987	Rural	57	53
San Francisco (city and county)	7,002	6,766	Yuba City	19	13
San Joaquin County	964	1,088	Tehama County	143	146
Rural	443	455	Rural	78	65
Lodi	47	41	Corning	9	14
Stockton	460	596	Red Bluff	46	63
Tracy	4	6	Tehama	11	4
San Luis Obispo County	205	205	Trinity County	43	61
Rural	65	60	Tulare County	415	398
Arroyo Grande	8	9	Rural	204	235
Paso de Robles	31	23	Dinuba	23	20
San Luis Obispo	101	106	Exeter	3	9
San Mateo County	315	305	Lindsay	26	3
Rural	174	177	Porterville	31	31
Burlingame	14	19	Tulare	31	34
Daly City	13	1	Visalia	92	61
Hillsborough		1	Tuolumne County	133	130
Redwood City	30	38	Ventura County	260	260
San Mateo	68	52	Rural	85	82
South San Francisco	16	17	Oxnard	62	51
Santa Barbara County	353	360	San Buenaventura	72	75
Rural	79	83	Santa Paula	41	52
Lompoc	14	17	Yolo County	179	193
Santa Barbara	223	234	Rural	133	120
Santa Maria	32	26	Winters	6	23
Santa Clara County	1,444	1,389	Woodland	35	50
Rural	821	722	Yuba County	193	149
Gilroy	34	37	Rural	36	33
Los Gatos	52	37	Marysville	145	113
Mayfield		5	Wheatland	5	3

II. STATISTICS OF BIRTHS: 1913 AND 1912.

SYNOPSIS.

Births By Sex, Race and Maternal Nativity.—The 43,852 babies in 1913 included 22,699 boys and 21,153 girls, while of the 39,330 in 1912 the males were 20,231 and the females 19,099. The per cent male was 51.8 in 1913 against 51.4 in 1912, the preponderance of males increasing somewhat.

For births in freeholders' charter cities, the per cents male were 51.4 and 51.2 in 1913 and 1912, respectively, against 52.3 and 51.8 for the rest of California. The per cent male increased both within cities and outside them.

The race distribution of births in 1913 was: White, 40,864; Japanese, 2,215; Chinese, 381; negro, 343, and Indian, 49. The figures for 1912 were: White, 37,194; Japanese, 1,467; Chinese, 321; negro, 319, and Indian, 29. The per cent white decreased steadily through the past eight years, thus: 98.4 (1906), 97.7, 96.8, 96.3, 96.1, 95.5, 94.6 and 93.2 (1913).

For chartered cities the per cent white was 93.9 in 1913 and 94.6 in 1912, while for the rest of the State the per cents were 91.9 and 94.5, respectively.

The preponderance of males is greater, both within cities and outside them, among the few non-Caucasian babies than among the many white infants.

The nativity of the white mothers in 1913 and 1912 was: Born in other states, 16,305 and 14,613; born in California, 12,864 and 11,864; and foreign born, 11,695 and 10,717.

The per cent distribution of white mothers was for 1913 and 1912, respectively: Other states, 39.9 and 39.3; California, 31.5 and 31.9; and foreign countries, 28.6 and 28.8. The annual average per cents for 1909 to 1913 were: Other American, 38.0; Californian, 33.4; and foreign, 28.6.

For cities the per cent of mothers born in other states was 38.5 in 1913 and 37.8 in 1912; the per cents foreign born were 31.4 and 31.9; and the per cents born in California were 30.1 and 30.3. For the rural districts the per cents in 1913 and 1912 were, respectively: Other states, 42.3 and 41.9; California, 33.9 and 34.6; and foreign, only 23.8 and 23.5.

Statistical tables have been prepared to show the proportion of the sexes among children born to white mothers classified by nativity. However, differences between geographic divisions and between urban and rural districts prevent the drawing of general conclusions about the effect of maternal nativity on the preponderance of male births.

Nativity of Brides and Mothers.—Comparison of the per cent distribution of white brides and mothers, by nativity, shows that throughout California a larger portion of the brides than of the mothers were born in this State. Similarly, but in less degree, a larger proportion of the brides than the mothers were natives of other states. On the other hand, a much larger proportion of the mothers than of the brides in California were foreign born.

There is likewise an excess in the per cent born in California among single brides over that among mothers, though there is relatively little

difference in the per cents born elsewhere in the United States for single brides and mothers. However there is a great excess in the per cent born abroad among mothers over that for single brides.

It seems, therefore, that in California, as elsewhere in the United States, the fecundity of foreign born women is greater than that of native women, whether born in California or other states.

BIRTHS BY SEX, RACE AND MATERNAL NATIVITY.

Sex.—The following table gives the classification of births by sex, with per cents, for the several geographic divisions in both 1913 and 1912:

TABLE 1.—Births Classified by Sex, with Per Cents, for Geographic Divisions*: 1913 and 1912.

Geographic Division	Births						Per cent male		Per cent female	
	Total		Male		Female		1913	1912	1913	1912
	1913	1912	1913	1912	1913	1912				
THE STATE.....	43,852	39,330	22,699	20,231	21,153	19,099	51.8	51.4	48.2	48.6
<i>Northern California</i>	3,918	3,596	2,025	1,862	1,898	1,734	51.7	51.8	48.3	48.2
Coast counties.....	1,746	1,529	879	769	867	760	50.3	50.3	49.7	49.7
Interior counties.....	2,172	2,067	1,146	1,093	1,026	974	52.8	52.9	47.2	47.1
<i>Central California</i>	23,165	21,218	11,998	10,943	11,172	10,275	51.8	51.6	48.2	48.4
San Francisco.....	7,562	6,964	3,897	3,576	3,656	3,378	51.6	51.4	48.4	48.6
Other bay counties.....	5,736	5,068	2,976	2,554	2,760	2,504	51.9	50.5	48.1	49.5
Coast counties.....	2,585	2,455	1,376	1,251	1,290	1,204	53.2	51.0	46.8	49.0
Interior counties.....	7,292	6,751	3,744	3,562	3,548	3,189	51.3	52.8	48.7	47.2
<i>Southern California</i>	16,769	14,516	8,681	7,426	8,068	7,090	51.8	51.2	48.2	48.8
Los Angeles.....	11,967	10,408	6,224	5,351	5,743	5,067	52.0	51.4	48.0	48.6
Other counties.....	4,802	4,108	2,457	2,075	2,345	2,033	51.2	50.5	48.8	49.5
<i>Northern and Central California</i>	27,063	24,814	14,018	12,805	13,065	12,009	51.8	51.6	48.2	48.4
Coast counties.....	17,619	15,966	9,128	8,150	8,491	7,846	51.8	51.0	48.2	49.0
Interior counties.....	9,464	8,818	4,890	4,655	4,574	4,163	51.7	52.8	48.3	47.2
Metropolitan area.....	13,288	12,012	6,873	6,130	6,415	5,882	51.7	51.0	48.3	49.0
Rural counties.....	13,795	12,802	7,145	6,675	6,650	6,127	51.8	52.1	48.2	47.9

*For list of counties included in geographic divisions, see page 26.

The proportion of the sexes among the 43,852 children born in California in 1913 was: Male, 22,699, or 51.8 per cent; and female, 21,153, or 48.2 per cent. Among the 39,330 born in 1912, the proportion of the sexes was: Male, 20,231, or 51.4 per cent; and female, 19,099, or 48.6 per cent. It may be added that for 1909 to 1913 the annual average per cent male was 51.8, and the per cent female was 48.2.

In 1913 the male births exceeded the female by 1,546 or 7.3 per cent, while in 1912 the excess of boys over girls was only 1,132 or 5.9 per cent. The male births exceeded the female in every main and minor geographic division in both 1913 and 1912. The per cent male was highest in 1913 for the coast counties of Central California (53.2) and in 1912 for the interior counties of Northern California (52.9). Each year the per cent was lowest (50.3) for the coast counties of Northern California.

The per cents male were somewhat lower for the metropolitan area each year (51.7 and 51.0) than for the rural counties north of

Tehachapi (51.8 and 52.1), but were generally higher for San Francisco alone (51.6 and 51.4) than for the adjoining bay counties (51.9 and 50.5). Similarly, the per cents male for Los Angeles (52.0 and 51.4) were somewhat higher than for the other counties south of Tehachapi (51.2 and 50.5).

The following table shows, for 1913 and 1912, the classification of births by sex, with per cent distributions, for the freeholders' charter cities in contrast with the rest of the State. There were thirty-two chartered cities in 1913 and thirty-one in 1912:

TABLE 2.—Births Classified by Sex, with Per Cents, for Cities and Rest of State: 1913 and 1912.

Population Group	Births						Per cent male		Per cent female	
	Total		Male		Female		1913	1912	1913	1912
	1913	1912	1913	1912	1912	1913				
CALIFORNIA -----	49,852	39,380	22,699	20,231	21,158	19,099	51.8	51.4	48.2	48.6
Freeholders' charter cities	27,759	24,827	14,278	12,721	13,481	12,106	51.4	51.2	48.6	48.8
Rest of state.....	16,093	14,503	8,421	7,510	7,672	6,993	52.3	51.8	47.7	48.2

This table shows that among the 27,759 births in freeholders' charter cities in 1913 the proportion of the sexes was: Male, 14,278, or 51.4 per cent; and female, 13,481, or 48.6 per cent. The proportion of the sexes among the 24,827 births in chartered cities in 1912 was: Male, 12,721, or 51.2 per cent; and female, 12,106, or 48.8 per cent.

In California, outside chartered cities, there were 16,093 births, classified by sex, as follows: Male, 8,421, or 52.3 per cent; and female, 7,672, or 47.7 per cent. For the State outside cities in 1910 the 14,503 births were distributed by sex, as follows: Male, 7,510, or 51.8 per cent; and female, 6,993, or 48.2 per cent.

The per cents male were somewhat less each year for chartered cities as a class (51.4 and 51.2) than for all the rest of the State (52.3 and 51.8). However, the increase in the proportion of males for 1913, as compared with 1912, shown for California as a whole, appears also both within cities and outside them.

Race.—The following table gives the classification of births by race, as well as the per cent white, for the several geographic divisions in 1913 and 1912.

TABLE 3.—Births Classified by Race, with Per Cent White, for Geographic Divisions: 1913 and 1912.

Geographic division	Births						Per cent white
	Total	White	Negro	Indian	Chinese	Japanese	
1913.							
THE STATE -----	43,852	40,864	343	49	381	2,215	93.2
<i>Northern California</i> -----	3,918	3,725	4	26	17	146	95.1
Coast counties -----	1,746	1,701	-----	15	4	26	97.4
Interior counties -----	2,172	2,024	4	11	13	120	93.2
<i>Central California</i> -----	23,165	21,816	115	11	337	1,386	92.0
San Francisco -----	7,552	7,132	26	-----	190	214	94.4
Other bay counties -----	5,736	5,391	49	-----	60	227	94.0
Coast counties -----	2,585	2,266	3	-----	15	301	87.7
Interior counties -----	7,292	6,527	37	11	73	644	89.5
<i>Southern California</i> -----	16,769	15,823	224	12	27	683	94.4
Los Angeles -----	11,967	11,207	199	7	22	532	93.6
Other counties -----	4,802	4,616	25	5	5	151	96.1
<i>Northern and Central California</i> -----	27,083	25,041	119	37	354	1,532	92.5
Coast counties -----	17,619	16,490	78	15	268	768	93.6
Interior counties -----	9,464	8,551	41	22	86	764	90.4
Metropolitan area -----	13,288	12,523	75	-----	249	441	94.2
Rural counties -----	13,795	12,518	44	37	106	1,091	90.7
1912.							
THE STATE -----	39,330	37,194	319	29	321	1,467	94.6
<i>Northern California</i> -----	3,596	3,481	2	20	15	78	96.8
Coast counties -----	1,529	1,495	-----	11	1	22	97.8
Interior counties -----	2,067	1,986	2	9	14	56	96.1
<i>Central California</i> -----	21,218	19,878	111	3	280	946	93.7
San Francisco -----	6,954	6,609	20	-----	163	162	95.0
Other bay counties -----	5,058	4,773	54	-----	49	182	94.4
Coast counties -----	2,455	2,251	3	-----	15	186	91.7
Interior counties -----	6,751	6,245	34	3	53	416	92.5
<i>Southern California</i> -----	14,516	13,835	206	6	26	443	95.3
Los Angeles -----	10,408	9,852	183	1	17	355	94.7
Other counties -----	4,108	3,983	23	5	9	88	97.0
<i>Northern and Central California</i> -----	24,814	23,359	113	23	295	1,024	94.1
Coast counties -----	15,996	15,128	77	11	228	552	94.6
Interior counties -----	8,818	8,231	36	12	67	472	93.3
Metropolitan area -----	12,012	11,382	74	-----	212	344	94.8
Rural counties -----	12,802	11,977	39	23	83	680	93.6

It appears from this table that the race distribution of the 43,852 births in California in 1913 was: White, 40,864, or 93.2 per cent; Japanese, 2,215; Chinese, 381; negro, 343; and Indian, 49. In 1912 the race distribution of the 39,330 births was: White, 37,194, or 94.6 per cent; Japanese, 1,467; Chinese, 321; negro, 319; and Indian, 29. Each year the Japanese were decidedly the leading non-Caucasian race represented in births, with the Chinese and negroes next in order but far behind, and with Indians barely shown at all. It may be added that for 1909 to 1913 the annual average per cent white was 95.1. Moreover, the per cent white decreased steadily in the whole eight years covered

by the present registration law, the successive per cents being as follows: 98.4 (1906), 97.7, 96.8, 96.3, 96.1, 95.5, 94.6, and 93.2 (1913).

In 1913 and 1912 the per cent white was highest for Northern California (95.1 and 96.8), next for Southern California (94.4 and 95.3), and lowest for Central California (92.0 and 93.7). Among the minor geographic divisions the per cent white ranged from 97.4 and 97.8 for the coast counties of Northern California in 1913 and 1912, respectively, to merely 87.7 and 91.7 for the coast counties of Central California.

Each year the per cents white were less for Los Angeles (93.6 and 94.7) than for the other counties of Southern California (96.1 and 97.0). However, the per cents white were somewhat greater for San Francisco than for the other bay counties, being 94.4 and 95.0 for the metropolis proper against 94.0 and 94.4 for the suburbs.

The following table gives the race distribution of births, with the per cent white, for the thirty-two chartered cities in 1913 and the thirty-one in 1912, in contrast with the rest of the State:

TABLE 4.—Births Classified by Race, with Per Cent White, for Cities and Rest of State: 1913 and 1912.

Population group	Births						Per cent white
	Total	White	Negro	Indian	Chinese	Japanese	
1913.							
CALIFORNIA.....	43,852	40,864	343	49	351	2,215	93.2
Freeholders' charter cities....	27,759	26,076	308	8	314	1,058	93.9
Rest of state.....	16,093	14,788	40	41	67	1,157	91.9
1912.							
CALIFORNIA.....	39,330	37,194	319	29	321	1,467	94.6
Freeholders' charter cities....	24,827	23,494	276	3	261	793	94.6
Rest of state.....	14,503	13,700	43	26	60	674	94.5

This table shows that among the 27,759 births in chartered cities in 1913, the race distribution was: White, 26,076, or 93.9 per cent; Japanese, 1,058; Chinese, 314; negro, 303; and Indian, 8. The race distribution of the 24,827 births in cities in 1912 was: White, 23,494, or 94.6 per cent; Japanese, 793; negro, 276; Chinese, 261; and Indian, 3.

For the State, exclusive of chartered cities, there were 16,093 births in 1913, distributed by race, as follows: White, 14,788, or 91.9 per cent; Japanese, 1,157; Chinese, 67; Indian, 41; and negro, 40. There were 14,503 births outside cities in 1912, distributed by race, as follows: White, 13,700, or 94.5 per cent; Japanese, 674; Chinese, 60; negro, 43; and Indian, 26.

In both 1913 and 1912 the per cent white was somewhat greater for births within cities (93.9 and 94.6) than for births outside them (91.9 and 94.5). The general decrease in the per cent white, for 1913 as compared with 1912, was common to both chartered cities and rural districts.

Sex and Race.—In the table below births of whites and non-Caucasians are classified by sex, with per cents, for both 1913 and 1912. There were so few births of non-Caucasians in some geographic divisions that figures are presented here only for the thirty-two chartered cities in 1913 and the thirty-one in 1912, as contrasted with the rest of the State.

TABLE 5.—Births Classified by Sex and Race, with Per Cents, by Sex, for Cities and Rest of State: 1913 and 1912.

Population group.	Births						Per cent male		Per cent female	
	Total		Male		Female		1913	1912	1913	1912
	1913	1912	1913	1912	1913	1912				
White.										
CALIFORNIA.....	40,864	37,194	21,057	19,093	19,807	18,101	51.5	51.3	48.5	48.7
Freeholders' charter cities	28,076	23,494	13,377	12,080	12,699	11,464	51.3	51.2	48.7	48.8
Rest of state.....	14,788	13,700	7,680	7,063	7,108	6,637	51.9	51.6	48.1	48.4
Non-Caucasian.										
CALIFORNIA.....	2,988	2,136	1,642	1,183	1,346	998	55.0	53.3	45.0	46.7
Freeholders' charter cities	1,683	1,333	901	691	782	642	53.5	51.8	46.5	48.2
Rest of state.....	1,305	803	741	447	564	356	56.8	55.7	43.2	44.3

This table shows, in brief, that the preponderance of males was much greater, both within cities and outside them, among the few non-Caucasian births than among the many white births. Thus, in 1913 and 1912, respectively, the per cents male were 55.0 and 53.3 for non-Caucasians against only 51.5 and 51.3 for whites in the State as a whole; 53.5 and 51.8 for non-Caucasians against 51.3 and 51.2 for whites in chartered cities as a class; and no less than 56.8 and 55.7 for non-Caucasians against only 51.9 and 51.6 for whites in all the rest of California.

Nativity of White Mothers.—The analysis of births by race may be extended to a consideration of births according to the nativity of white mothers—classified as born in California, born in other states, or foreign born—as given in the following table, by numbers and per cents, for the several geographic divisions in both 1913 and 1912:

TABLE 6.—White Mothers Classified by Nativity, with Per Cents, for Geographic Divisions: 1913 and 1912.

Geographic division	White mothers				Per cent		
	Total	Born in California	Born in other states	Foreign born	Born in California	Born in other states	Foreign born
1913.							
THE STATE	40,864	12,864	16,305	11,695	31.5	39.9	28.6
<i>Northern California</i>	3,725	1,879	1,066	780	50.5	28.6	20.9
Coast counties	1,701	857	389	455	50.4	22.9	26.7
Interior counties	2,024	1,022	677	325	50.5	33.4	16.1
<i>Central California</i>	21,316	8,371	6,037	6,906	39.3	28.3	32.4
San Francisco	7,132	2,836	1,314	2,982	39.8	18.4	41.8
Other bay counties	5,391	2,216	1,480	1,695	41.1	27.5	31.4
Coast counties	2,266	999	584	683	44.1	25.8	30.1
Interior counties	6,527	2,320	2,669	1,548	35.6	40.7	23.7
<i>Southern California</i>	15,823	2,614	9,202	4,007	16.5	58.2	25.3
Los Angeles	11,207	1,687	6,473	3,047	15.0	57.8	27.2
Other counties	4,616	927	2,729	960	20.1	59.1	20.8
<i>Northern and Central California</i>	25,041	10,250	7,103	7,688	40.9	28.4	30.7
Coast counties	16,490	6,906	3,767	5,815	41.9	22.8	35.3
Interior counties	8,551	3,342	3,336	1,873	39.1	39.0	21.9
Metropolitan area	12,523	5,052	2,794	4,677	40.3	22.3	37.4
Rural counties	12,518	5,198	4,309	3,011	41.5	34.4	24.1
1912.							
THE STATE	37,194	11,864	14,613	10,717	31.9	39.3	28.8
<i>Northern California</i>	3,481	1,704	1,050	727	48.9	30.2	20.9
Coast counties	1,495	691	371	433	46.2	24.8	29.0
Interior counties	1,986	1,013	679	294	51.0	34.2	14.8
<i>Central California</i>	19,878	7,777	5,628	6,473	39.1	28.3	32.6
San Francisco	6,609	2,601	1,166	2,842	39.4	17.6	43.0
Other bay counties	4,773	1,940	1,330	1,503	40.6	27.9	31.5
Coast counties	2,251	987	600	664	43.8	26.7	29.5
Interior counties	6,245	2,249	2,532	1,464	36.0	40.6	23.4
<i>Southern California</i>	13,835	2,383	7,985	3,517	17.2	57.4	25.4
Los Angeles	9,852	1,496	5,693	2,663	15.2	57.8	27.0
Other counties	3,983	887	2,242	854	22.3	56.3	21.4
<i>Northern and Central California</i>	23,359	9,481	6,678	7,200	40.6	28.6	30.8
Coast counties	15,128	6,219	3,467	5,442	41.1	22.9	36.0
Interior counties	8,231	3,262	3,211	1,758	39.6	39.0	21.4
Metropolitan area	11,382	4,541	2,493	4,345	39.9	21.9	38.2
Rural counties	11,977	4,940	4,182	2,855	41.3	34.9	23.8

It appears from this table that of the mothers of the white children born in this State totaling 40,864 and 37,194 in 1913 and 1912, respectively, those who were themselves born in other states numbered 16,305 and 14,613; those who were Californians like their children were 12,864 and 11,864; and the foreign born mothers were 11,695 and 10,717. The per cent distribution of white mothers was as follows for 1913 and 1912, respectively: Other states, 39.9 and 39.3; California, 31.5 and 31.9; and foreign countries, 28.6 and 28.8. It may be added that for 1909 to 1913 the annual average per cents were as follows: Other American, 38.0; Californian, 33.4; and foreign, 28.6.

The proportion of white mothers born in other states is very high for Southern California, but is quite low for Northern and Central California. The per cents born elsewhere in the United States were 58.2 and 57.4 for the counties south of Tehachapi in 1913 and 1912 as compared with 28.4 and 28.6 for those to the north, being 28.6 and 30.2 for Northern California and only 28.3 each year for Central California. The per cent was 57.8 each year for Los Angeles against 59.1 in 1913 and 56.3 in 1912 for the other counties south of Tehachapi. However, the per cents were only 22.3 and 21.9 for the metropolitan area as compared with 34.4 and 34.9 for the rural counties north of Tehachapi, and were merely 18.4 and 17.6 for San Francisco against 27.5 and 27.9 for the other bay counties.

The proportion of mothers who were themselves native daughters is very high for both Northern and Central California but very low for Southern California. The per cents of mothers born in the Golden State in 1913 and 1912, respectively, were 50.5 and 48.9 for Northern California and 39.3 and 39.1 for Central California, or 40.9 and 40.6 for both together as compared with merely 16.5 and 17.2 for the counties south of Tehachapi. The per cents were as little as 15.0 and 15.2 for Los Angeles against 20.1 and 22.3 for the other counties of Southern California. The per cents were likewise less for the metropolitan area than for the rural counties north of Tehachapi, being 40.3 and 39.9 for the former against 41.5 and 41.3 for the latter. The per cents were also somewhat less for San Francisco than for the other bay counties, being 39.8 and 39.4 for main city against 41.1 and 40.6 for the surrounding suburbs.

The proportion of foreign born mothers of the white race is notably high only for Central California, especially in San Francisco and the other bay counties. The per cents born abroad in 1913 and 1912, respectively, were 32.4 and 32.6 for Central California as compared with merely 25.3 and 25.4 for Southern California and 20.9 each year for Northern California. The per cents for the counties north of Tehachapi were 30.7 and 30.8, being no less than 37.4 and 38.2 for the metropolitan area against only 24.1 and 23.8 for the rural counties. The per cents born abroad were as great as 41.8 and 43.0 among mothers in the metropolis proper as compared with 31.4 and 31.5 for those in the suburban counties.

The next table gives numbers and per cents, showing the nativity of white mothers for the thirty-two chartered cities in 1913 and the thirty-one in 1912, as compared with all the rest of California:

TABLE 7.—White Mothers Classified by Nativity, with Per Cents, for Cities and Rest of State: 1913 and 1912.

Population group	White mothers				Per cent		
	Total	Born in California	Born in other states	Foreign born	Born in California	Born in other states	Foreign born
1913.							
CALIFORNIA.....	40,864	12,864	16,305	11,695	31.5	39.9	28.6
Freeholders' charter cities....	26,076	7,846	10,048	8,182	30.1	38.5	31.4
Rest of state.....	14,788	5,018	6,257	3,513	33.9	42.3	23.8
1912.							
CALIFORNIA.....	37,194	11,864	14,613	10,717	31.9	39.3	28.8
Freeholders' charter cities....	23,494	7,118	8,878	7,498	30.3	37.8	31.9
Rest of state.....	13,700	4,746	5,735	3,219	34.6	41.9	23.5

This table shows that of the 26,076 mothers of white children born in freeholders' charter cities in 1913 altogether 10,048, or 38.5 per cent, were natives of other states; 8,182, or 31.4 per cent, were foreign born; and 7,846, or 30.1 per cent, were natives of California. Of the 23,494 white mothers bearing children in chartered cities in 1912, those born in other states were 8,878, or 37.8 per cent; those born abroad were 7,498, or 31.9 per cent; and those born in California were 7,118, or 30.3 per cent.

In the State outside cities there were 14,788 births of white children in 1913, with mothers born as follows: Other states, 6,257, or 42.3 per cent; California, 5,018, or 33.9 per cent; and foreign countries, 3,513, or 23.8 per cent. In 1912 there were 13,700 white children born in the rural part of the State, with maternal nativity as follows: Other states, 5,735, or 41.9 per cent; California, 4,746, or 34.6 per cent; and foreign, 3,219, or 23.5 per cent.

The per cents American born, whether in California or other states, were less each year for chartered cities than for rural districts, while the per cent foreign born was much greater within cities than outside them. The excess in the per cent of mothers born in this State for rural districts over that for cities was 3.8 in 1912 (33.9 against 30.1), and 4.3 in 1912 (34.6 against 30.3). Similarly, the excess in the per cent born elsewhere in the United States for the rural over the urban districts was 3.8 in 1913 (42.3 against 38.5), and 4.1 in 1912 (41.9 against 37.8). On the other hand, the excess in the per cent foreign born among white mothers in cities over that among mothers in the country districts was no less than 7.6 in 1913 (31.4 against 23.8), and 8.4 in 1912 (31.9 against 23.5).

Both within cities and outside them the women bearing most children in California are those who were themselves born in other states. Foreign born mothers are second for births in chartered cities, but a poor third for births outside cities. California born mothers are a good second for births in the rural districts, and even a close third for births in urban territory.

Sex and Nativity of White Mothers.—In the study of sex and race, *ante*, it was found that the preponderance of male births was much greater among non-Caucasians than among whites. The following table has been prepared to show the proportion of the sexes among children born to white mothers classified by nativity. Only the per cent distribution, by sex, is given here, but the absolute figures are presented in Table 18, *post*.

TABLE 8.—Per Cent Distribution, by Sex, of White Children with Mothers Classified by Nativity, for Geographic Divisions: 1913 and 1912.

Geographic division	White children											
	Per cent male among those with mothers—						Per cent female among those with mothers—					
	Born in California		Born in other states		Foreign born		Born in California		Born in other states		Foreign born	
	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912
THE STATE.....	51.9	51.0	51.3	51.9	51.4	50.9	48.1	49.0	48.7	48.1	48.6	49.1
<i>Northern California</i>	52.8	52.5	49.5	51.2	52.4	49.1	47.2	47.5	50.5	48.8	47.6	50.9
Coast counties.....	52.0	53.0	47.8	49.9	50.1	45.5	48.0	47.0	52.2	50.1	49.9	54.5
Interior counties.....	53.4	52.1	50.5	52.0	55.7	54.4	46.6	47.9	49.5	48.0	44.3	45.6
<i>Central California</i>	51.6	50.9	50.7	52.0	51.8	51.3	48.4	49.1	49.3	48.0	48.2	48.7
San Francisco.....	51.7	49.2	51.1	52.9	51.8	52.6	48.3	50.8	48.9	47.1	48.2	47.4
Other bay counties.....	52.3	52.4	50.5	50.1	52.3	49.0	47.7	47.6	49.5	49.9	47.7	51.0
Coast counties.....	52.0	50.8	50.7	50.3	51.7	48.6	48.0	49.2	49.3	49.7	48.3	51.4
Interior counties.....	50.5	51.8	50.7	52.9	51.4	52.5	49.5	48.2	49.3	47.1	48.6	47.5
<i>Southern California</i>	52.3	50.4	51.9	51.9	50.6	50.6	47.7	49.6	48.1	48.1	49.4	49.4
Los Angeles.....	52.6	50.0	52.2	52.4	50.8	50.4	47.4	50.0	47.8	47.6	49.2	49.6
Other counties.....	51.6	51.1	51.2	50.6	50.0	51.2	48.4	48.9	48.8	49.4	50.0	48.8
<i>Northern and Central California</i>	51.8	51.2	50.5	51.8	51.9	51.1	48.2	48.8	49.5	48.2	48.1	48.9
Coast counties.....	52.0	50.8	50.5	51.1	51.8	50.6	48.0	49.2	49.5	48.9	48.2	49.4
Interior counties.....	51.4	51.9	50.6	52.7	52.1	52.8	48.6	48.1	49.4	47.3	47.9	47.2
Metropolitan area.....	52.0	50.5	50.8	51.4	52.0	51.3	48.0	49.5	49.2	48.6	48.0	48.7
Rural counties.....	51.6	51.8	50.4	52.1	51.7	50.7	48.4	48.2	49.6	47.9	48.3	49.3

The per cents of male births in California in 1913 and 1912, respectively, were 51.9 and 51.0 for native daughters, 51.3 and 51.9 for mothers born in other states, and 51.4 and 50.9 for foreign born mothers. For 1909 to 1913 the annual average per cents were as follows: Californians, 51.6; other Americans, 51.7; and foreign born, also 51.7. The per cents for native daughters and foreign born mothers were substantially the same each year, while the per cent for other Americans was lower than both for 1913 though somewhat higher than both for 1912.

Differences like those here noted between the per cents for the State in 1913 and 1912 occur also among the per cents for the several geographic divisions each year, so that it is impossible to draw general conclusions from these figures about the effect of maternal nativity on the preponderance of male births.

The following table presents similar figures for freeholders' charter cities in contrast with the rest of California. The numbers on which the per cents are based appear in Table 19, *post*.

TABLE 9. Per Cent Distribution, by Sex, of White Children with Mothers Classified by Nativity, for Cities and Rest of State: 1913 and 1912.

Population group	White children											
	Per cent male among those with mothers—						Per cent female among those with mothers—					
	Born in California		Born in other states		Foreign born		Born in California		Born in other states		Foreign born	
	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912
CALIFORNIA.....	51.9	51.0	51.3	51.9	51.4	50.9	48.1	49.0	48.7	48.1	48.6	49.1
Freeholders' charter cities	51.6	50.4	51.3	51.9	51.0	51.1	48.4	49.6	48.7	48.1	49.0	48.9
Rest of state.....	52.3	52.0	51.3	51.8	52.6	50.5	47.7	48.0	48.7	48.2	47.4	49.5

In chartered cities the per cents of male births in 1913 and 1912, respectively, were 51.6 and 50.4 for Californian mothers and 51.3 and 51.9 for other Americans, as compared with 51.0 and 51.1 for mothers born abroad. For 1909 to 1913, the annual average per cents male were as follows, according to maternal nativity: California, 51.7; other states, also 51.7; and foreign countries, 51.5. That is, in cities where the three elements of the population are about equally represented, the preponderance of male births is somewhat greater, generally speaking, for Californian and other American mothers than for those born in foreign countries though, after all, not so very far from the same for each of the three classes.

In rural districts, where the foreign born element is least numerous, the per cents male in 1913 and 1912 were 52.3 and 52.0 among children of native daughters and 51.3 and 51.8 among children of other Americans, as compared with 52.6 and 50.5 among children of foreign born mothers. For 1909 to 1913 the annual average per cents male for mothers classified by nativity, were as follows: Californian, 51.7; other Americans, 51.6; and foreign, 52.3. The Californian and other American mothers outnumber by far the foreign born in rural districts, while the preponderance of male births is generally greater in country sections for mothers born abroad than for natives of California or other states.

NATIVITY OF BRIDES AND MOTHERS.

Nativity of White Brides and Mothers.—Some facts of interest are disclosed by a comparison of the nativity of white brides and mothers in California. Accordingly, the following table is presented giving, for the several geographic divisions in 1913 and 1912, the per cent distribution of white brides and white mothers by nativity:

TABLE 10.—Per Cent Distribution, by Nativity, of White Brides and White Mothers, for Geographic Divisions: 1913 and 1912.

Geographic division	Per cent born in California		Per cent born in other states		Per cent foreign born	
	White brides	White mothers	White brides	White mothers	White brides	White mothers
1913.						
THE STATE-----	35.9	31.5	44.1	39.9	20.0	23.6
<i>Northern California</i> -----	57.1	50.5	28.5	28.6	14.4	20.9
Coast counties-----	58.1	50.4	21.7	22.9	20.2	26.7
Interior counties-----	56.1	50.5	35.2	33.4	8.7	16.1
<i>Central California</i> -----	45.3	39.3	31.9	28.3	22.8	32.4
San Francisco-----	42.4	39.8	26.0	18.4	31.6	41.8
Other bay counties-----	47.9	41.1	31.9	27.5	20.2	31.4
Coast counties-----	50.9	44.1	30.8	25.8	18.3	30.1
Interior counties-----	44.1	35.6	38.9	40.7	17.0	23.7
<i>Southern California</i> -----	19.0	16.5	63.7	58.2	17.3	25.3
Los Angeles-----	16.9	15.0	64.6	57.3	18.5	27.2
Other counties-----	22.6	20.1	62.1	59.1	15.3	20.8
<i>Northern and Central California</i> -----	46.8	40.9	31.5	28.4	21.7	30.7
Coast counties-----	46.9	41.9	28.4	22.8	24.7	35.3
Interior counties-----	46.4	39.1	38.2	39.0	15.4	21.9
Metropolitan area-----	45.0	40.3	28.7	22.3	26.3	37.4
Rural counties-----	48.8	41.5	34.6	34.4	16.6	24.1
1912.						
THE STATE-----	37.6	31.9	42.6	39.3	19.8	28.8
<i>Northern California</i> -----	57.5	49.9	29.4	30.2	13.1	20.9
Coast counties-----	56.3	46.2	24.9	24.8	18.8	29.0
Interior counties-----	58.6	51.0	34.1	34.2	7.3	14.8
<i>Central California</i> -----	47.3	39.1	29.8	28.3	22.9	32.6
San Francisco-----	43.7	39.4	24.1	17.6	32.2	43.0
Other bay counties-----	50.2	40.6	29.4	27.9	20.4	31.5
Coast counties-----	54.5	43.8	26.7	26.7	18.8	29.5
Interior counties-----	45.8	36.0	37.8	40.6	16.4	23.4
<i>Southern California</i> -----	19.6	17.2	63.5	57.4	16.9	25.4
Los Angeles-----	17.7	15.2	63.8	57.8	18.5	27.0
Other counties-----	23.1	22.3	63.0	56.3	13.9	21.4
<i>Northern and Central California</i> -----	48.5	40.6	29.8	28.6	21.7	30.8
Coast counties-----	48.6	41.1	26.5	22.9	24.9	36.0
Interior counties-----	48.3	39.6	37.1	39.0	14.6	21.4
Metropolitan area-----	46.8	39.9	26.6	21.9	26.6	38.2
Rural counties-----	50.6	41.3	33.4	34.9	16.0	23.8

It appears from this table that the per cents of white brides born in California in 1913 and 1912 were 35.9 and 37.6 but that the per cents of native daughters among white mothers were only 31.5 and 31.9, respectively. The excess in the per cent born in California among brides over that among mothers was 4.4 in 1913 (35.9 against 31.5) and 5.7 in 1912 (37.6 against 31.9). In every main and minor geographic division in both 1913 and 1912 a larger per cent of white brides than of white mothers were natives of this State.

The per cents of white brides born in other states were 44.1 and 42.6 in 1913 and 1912, while the per cents born elsewhere in the United

States were considerably less among white mothers, 39.9 and 39.3, respectively. The excess in the per cent born in other states for brides over that for mothers was 4.2 in 1913 (44.1 against 39.9) and 3.3 in 1912 (42.6 against 39.3). For the interior counties of Central California in both 1913 and 1912, and for the coast counties of Northern California in 1913 alone and the interior counties of Northern California in 1912 alone, the per cents born elsewhere in the United States were greater among white mothers than among white brides. For the remaining geographic divisions, however, a larger per cent of the white brides than of the white mothers in California were born in other states.

The per cents foreign born were only 20.0 and 19.8 among white brides against no less than 28.6 and 28.8 in 1913 and 1912 among white mothers. The per cent born abroad among mothers exceeded that among brides by 8.6 in 1913 (28.6 against 20.0) and by 9.0 in 1912 (28.8 against 19.8). In every geographic division each year a much larger per cent of the white mothers than of the white brides were foreign born.

Comparison of the annual average per cents for the State as a whole in 1909 to 1913 shows that among native daughters the excess in the per cent for brides over that for mothers was 5.0 (38.4 against 33.4); among other Americans the excess in the per cent for brides over that for mothers was 4.1 (42.1 against 38.0); and among the foreign born the converse excess in the per cent for mothers over that for brides was as great as 9.1 (28.6 against 19.5).

The following table shows, for the several geographic divisions in 1913 and 1912, the results of comparing the per cent distribution, by nativity, of white brides and mothers:

TABLE 11.—Comparison of Per Cent Distribution, by Nativity, of White Brides and White Mothers, for Geographic Divisions: 1913 and 1912.

Geographic division	Excess in per cent born in California for white brides over that for white mothers		Excess in per cent born in other states for white brides over that for white mothers		Excess in per cent foreign born for white mothers over that for white brides	
	1912	1913	1913	1912	1913	1912
THE STATE.....	4.4	5.7	4.2	3.3	8.6	9.0
<i>Northern California</i>	6.6	8.6	-0.1	-0.8	6.5	7.8
Coast counties.....	7.7	10.1	-1.2	0.1	6.5	10.2
Interior counties.....	5.6	7.6	1.8	-0.1	7.4	7.5
<i>Central California</i>	6.0	8.2	3.6	1.5	9.6	9.7
San Francisco.....	2.6	4.3	7.6	6.5	10.2	10.8
Other bay counties.....	6.8	9.6	4.4	1.5	11.2	11.1
Coast counties.....	6.8	10.7	5.0	11.8	10.7
Interior counties.....	8.5	9.8	-1.8	-2.8	6.7	7.0
<i>Southern California</i>	2.5	2.4	5.5	6.1	8.0	8.5
Los Angeles.....	1.9	2.5	6.8	6.0	8.7	8.5
Other counties.....	2.5	0.8	3.0	6.7	5.5	7.5
<i>Northern and Central California</i>	5.9	7.9	3.1	1.2	9.0	9.1
Coast counties.....	5.0	7.5	5.6	3.6	10.6	11.1
Interior counties.....	7.8	8.7	-0.8	-1.9	6.5	6.8
Metropolitan area.....	4.7	6.9	6.4	4.7	11.1	11.6
Rural counties.....	7.3	9.3	0.2	-1.5	7.5	7.8

The per cents born in California were considerably greater each year among brides than among mothers, and the per cents born in other states were likewise greater, though in less degree, among brides than among mothers. On the other hand, the per cents foreign born were much greater each year for white mothers than for white brides.

The excess in the per cent born in California for brides over that for mothers was much greater for the counties north of Tehachapi, 5.9 in 1913 and 7.9 in 1912, than for those to the south, 2.5 and 2.4 respectively. However, the proportion of native daughters among both brides and mothers is much greater anyway in Northern and Central California than in Southern California. The excess in the per cents for brides over those for mothers was somewhat less for the metropolitan area (4.7 in 1913 and 6.9 in 1912) than for the rural counties north of Tehachapi (7.3 and 9.3, respectively). The excess was likewise less for the metropolis proper (2.6 and 4.3) than for the suburban counties (6.8 and 9.6).

The excess in the per cent born in other states for brides over that for mothers was considerably greater for the counties south of Tehachapi (5.5 in 1913 and 6.1 in 1912) than for those to the north (3.1 and 1.2, respectively). It must be remembered, however, that the proportion of both brides and mothers born in other states is particularly great for Southern California, but relatively small for Northern as well as Central California. In the metropolitan area a much larger proportion of the brides than of the mothers were born elsewhere in the United States, the excess in the per cent for brides being 6.4 for 1913 and 4.7 in 1912; in the rural counties north of Tehachapi, however, the excess in the per cent for brides was only 0.2 for 1913, while for 1912 there was even an excess in the per cent for mothers of 1.5. The excess in the per cent born in other states among brides over that among mothers was considerably greater for San Francisco (7.6 and 6.5) than for the other bay counties (4.4 and 1.5).

The marked excess in the per cent foreign born among mothers over that among brides was greatest in Central California (9.6 in 1913 and 9.7 in 1912); next in Southern California (8.0 and 8.5); and least in Central California (6.5 and 7.8). It is in these geographic divisions that the proportions foreign born among both mothers and brides are likewise greatest in the same order as here stated for the excess of foreign mothers over foreign brides. For Northern and Central California together the excess in the per cent of foreign born mothers over that of foreign born brides was 9.0 in 1913 and 9.1 in 1912. In the metropolitan area, where the foreign born element mainly abounds, the excess in the per cent of foreign born mothers over that of foreign born brides was as great as 11.1 in 1913 and 11.6 in 1912 as compared with only 7.5 and 7.8, respectively, for the rural counties north of Tehachapi. However, while San Francisco has a much larger proportion of foreign born inhabitants than the other bay counties, yet the excess in the per cent of foreign born mothers over that of foreign brides was somewhat less for the metropolis proper (10.2 and 10.8) than for the suburban counties (11.2 and 11.1).

Nativity of Single White Brides and White Mothers.—Since the marriages in which the brides were single are more apt to be blessed with children than those in which the brides were widowed or divorced, it

may be even more instructive to compare the nativity of white mothers, not merely with that of all white brides, but rather with the nativity of the single white brides alone. The following table has, therefore, been prepared to show, for the several geographic divisions in 1913 and 1912, the per cent distribution, by nativity, of single white brides and white mothers:

TABLE 12.—Per Cent Distribution, by Nativity, of Single White Brides and White Mothers, for Geographic Divisions: 1913 and 1912.

Geographic division	Per cent born in California		Per cent born in other states		Per cent foreign born	
	Single white brides	White mothers	Single white brides	White mothers	Single white brides	White mothers
1913.						
THE STATE.....	38.6*	31.5	41.3	39.9	20.1	28.6
<i>Northern California</i>	62.8	50.5	23.9	23.6	13.3	20.9
Coast counties.....	63.1	50.4	17.8	22.9	19.1	26.7
Interior counties.....	62.6	50.5	29.9	33.4	7.5	16.1
<i>Central California</i>	48.0	39.3	29.0	23.3	23.0	32.4
San Francisco.....	44.3	39.8	23.0	18.4	32.7	41.8
Other bay counties.....	51.7	41.1	29.1	27.5	19.2	31.4
Coast counties.....	54.7	44.1	27.3	25.8	18.0	30.1
Interior counties.....	46.2	35.6	36.2	40.7	17.6	23.7
<i>Southern California</i>	20.9	16.5	61.8	58.2	17.3	25.3
Los Angeles.....	18.5	15.0	63.0	57.8	18.5	27.2
Other counties.....	25.0	20.1	59.8	59.1	15.2	20.8
<i>Northern and Central California</i>	49.8	40.9	23.3	23.4	21.9	30.7
Coast counties.....	50.0	41.9	25.3	22.8	24.7	35.3
Interior counties.....	49.4	39.1	35.0	39.0	15.6	21.9
Metropolitan area.....	47.7	40.3	25.8	22.3	26.5	37.4
Rural counties.....	52.2	41.5	31.2	34.4	16.6	24.1
1912.						
THE STATE.....	40.2	31.9	39.8	39.3	20.0	28.8
<i>Northern California</i>	61.2	48.9	25.7	30.2	13.1	20.9
Coast counties.....	59.9	46.2	20.7	24.8	19.4	29.0
Interior counties.....	62.6	51.0	30.8	34.2	6.6	14.8
<i>Central California</i>	49.7	39.1	27.2	23.3	23.1	32.6
San Francisco.....	45.2	39.4	21.4	17.6	33.4	43.0
Other bay counties.....	53.4	40.6	27.0	27.9	19.6	31.5
Coast counties.....	58.1	43.8	23.6	26.7	18.3	29.5
Interior counties.....	48.2	36.0	35.2	40.6	16.6	23.4
<i>Southern California</i>	21.8	17.2	61.3	57.4	16.9	25.4
Los Angeles.....	19.4	15.2	62.2	57.8	18.4	27.0
Other counties.....	26.2	22.3	59.8	56.3	14.0	21.4
<i>Northern and Central California</i>	51.1	40.6	27.0	23.6	21.9	30.8
Coast counties.....	51.2	41.1	23.6	22.9	25.2	36.0
Interior counties.....	51.1	39.6	34.3	39.0	14.6	21.4
Metropolitan area.....	48.9	39.9	24.0	21.9	27.1	38.2
Rural counties.....	53.6	41.3	30.4	34.9	16.0	23.8

When the contrast is drawn between the nativity of single white brides and of white mothers, the excess heretofore noted in the per cents foreign born among mothers over brides is found also in the per cents for mothers over the single brides alone. However, while the per cents born in other states were considerably greater for all brides than for mothers in both 1913 and 1912, the per cents born elsewhere in the United States were notably greater for single white brides than for white mothers only in 1913, being also greater but only slightly so for single white brides than for white mothers in 1912. On the other hand, the excess in the per cent born in California among brides as compared with mothers remains very great when the widowed and divorced brides are eliminated and only the single brides are considered.

The table shows that the per cent of single white brides born in California was no less than 38.6 in 1913 and 40.2 in 1912, while the corresponding per cents for white mothers were only 31.5 and 31.9, respectively. The excess in the per cent of native daughters among single white brides over that among mothers was 7.1 in 1913 (38.6 as compared with 31.5) and was 8.3 in 1912 (40.2 as compared with 31.9). In all parts of the State both years a considerably larger proportion of the single white brides than of the mothers were born in California.

The per cent of single white brides born in other states was 41.3 in 1913 as compared with 39.9 for white mothers, an excess of 1.4 in the per cent for brides. In 1912, however, the per cent born elsewhere in the United States was only 39.8 for single white brides, against 39.3 for white mothers, an excess of only 0.5 in the per cent for brides. The excess in the per cent of single white brides born in other states over that for white mothers observed for 1913 was confined, moreover, to the metropolitan area and the adjacent coast counties as well as to Southern California as a whole, while in 1912 there was a similar excess in the per cent of single brides over that for mothers merely for San Francisco besides Southern California. In several of the geographic divisions, therefore, especially for 1912, the per cents born elsewhere in the United States were somewhat greater among mothers than among single brides.

The per cents foreign born in 1913 and 1912 were only 20.1 and 20.0 among single white brides in contrast with no less than 28.6 and 28.8 among white mothers. The per cent born abroad for mothers surpassed that for single brides by 8.5 in 1913 (28.6 against 20.1) and by 8.8 in 1912 (28.8 against 20.0). In every geographic division each year the per cent foreign born was decidedly higher for white mothers than for single white brides.

Comparison of the annual average per cents for California in 1909 to 1913 shows that among native daughters the excess in the per cent for single brides over that for mothers was as great as 7.8 (41.2 against 33.8); among other Americans the excess in the per cent for single brides over that of mothers was merely 1.3 (39.3 against 38.0); and among the foreign born the converse excess in the per cent for mothers over that for single brides was no less than 9.1 (28.6 against 19.5).

The following table gives a measure of the contrast between the per cent distribution, by nativity, of single white brides and white mothers for the several geographic divisions in 1913 and 1912:

TABLE 13.—Comparison of Per Cent Distribution, by Nativity, of Single White Brides and White Mothers, for Geographic Divisions: 1913 and 1912.

Geographic division	Excess in per cent born in California for single white brides over that for white mothers		Excess in per cent born in other states for single white brides over that for white mothers		Excess in per cent foreign born for white mothers over that for single white brides	
	1913	1912	1913	1912	1913	1912
THE STATE-----	7.1	8.3	1.4	0.5	8.5	8.8
Northern California-----	12.3	12.3	-4.7	-4.5	7.6	7.6
Coast counties-----	12.7	13.7	-5.1	-4.1	7.6	9.6
Interior counties-----	12.1	11.6	-3.5	-3.4	8.6	8.2
Central California-----	8.7	10.6	0.7	-1.1	9.4	9.6
San Francisco-----	4.5	5.8	4.6	3.8	9.1	9.6
Other bay counties-----	10.6	12.8	1.6	-0.9	12.2	11.9
Coast counties-----	10.6	14.3	1.5	-3.1	12.1	11.2
Interior counties-----	10.6	12.2	-4.5	-5.4	6.1	6.8
Southern California-----	4.4	4.6	3.6	3.9	8.0	8.5
Los Angeles-----	3.5	4.2	5.2	4.4	8.7	8.6
Other counties-----	4.9	3.9	0.7	3.5	5.6	7.4
Northern and Central California---	8.9	10.5	-0.1	-1.6	8.8	8.9
Coast counties-----	8.1	10.1	2.5	0.7	10.6	10.8
Interior counties-----	10.3	11.5	-4.0	-4.7	6.3	6.8
Metropolitan area-----	7.4	9.0	3.5	2.1	10.9	11.1
Rural counties-----	10.7	12.3	-3.2	-4.5	7.5	7.8

The single white brides surpassed the white mothers in the per cents born in California and in other states, though in much greater degree for California than for other Americans, while the mothers surpassed greatly the single brides in the per cent foreign born each year. Generally speaking, there was a marked excess in the per cent born in California among single brides over that among mothers; relatively little difference in the per cents born elsewhere in the United States for single brides and mothers; and a very great excess in the per cent born abroad among mothers over that for single brides.

The excess in the per cent born in California among single brides over that among mothers was much greater for Northern and Central California, 8.9 in 1913 and 10.5 in 1912, than for Southern California, 4.4 and 4.6, respectively. In all cases, however, the proportions born in the Golden State are much greater for the counties north of Tehachapi than for those to the south. The excess in the per cents born in California for single brides over those for mothers was somewhat less for the metropolitan area (7.4 in 1913 and 9.0 in 1912), than for the rural counties north of Tehachapi (10.7 and 12.3), and was likewise less for

San Francisco (4.5 and 5.8) than for the other bay counties (10.6 and 12.8).

The relatively small excess in the per cent born in other states among single brides over that among mothers shown each year was limited to San Francisco besides Southern California as a whole for both 1913 and 1912, though appearing also for the other bay counties and the coast counties of Central California in 1913 alone. The excess in the per cent born elsewhere in the United States among single brides over that among mothers was thus practically confined to the metropolitan area north of Tehachapi (3.5 and 2.1), especially San Francisco alone (4.6 and 3.8), as well as Southern California as a whole (3.6 and 3.9), particularly Los Angeles alone (5.2 and 4.4). For the rural counties of Northern and Central California, on the other hand, there was a great excess in the per cents born elsewhere in the United States among mothers over the per cents among single brides (3.2 and 4.5), especially for Northern California alone (4.7 and 4.5).

The decided excess in the per cent foreign born among mothers over that among single brides was greatest in Central California (9.4 and 9.5); next in Southern California (8.0 and 8.5); and least in Northern California (7.6 and 7.8). It is in Central, Southern, and Northern California, in the order stated for the excess of mothers, that the per cents foreign born are likewise greatest among both mothers and brides. For Northern and Central California the per cent born abroad among mothers exceeded that among brides by 8.8 in 1913 and 8.9 in 1912. In the metropolitan area, where the foreign born element is especially prominent, the excess in the per cent foreign born for mothers over that for single brides was as great as 10.9 and 11.1 in 1913 and 1912, as compared with only 7.5 and 7.8 for the rural counties north of Tehachapi. Yet while the foreign born population is more massed in San Francisco than in the suburbs, the excess in the per cent born abroad among mothers over that among single brides was somewhat less for the main city (9.1 and 9.6) than for the suburban counties (12.2 and 11.9).

Conclusion.—The comparison of the nativity of white brides and mothers here made gives a rough measure of the relative fecundity of American and foreign born women in California. The figures indicate that in this State, as in the whole country, the foreign born women are more prone to bear children than are the American born, whether natives of California or of other states. For the proportion foreign born is much greater among mothers than among brides, whether the comparison is made for all brides or only the single ones. However, the proportion born elsewhere in the United States than California is considerably less among mothers than among all brides, though about the same for mothers as for single brides alone. The proportion born in the Golden State, moreover, is also considerably less among mothers than among either all or only the single brides.

However, these conclusions are only tentative, because the registration of births in California does not yet seem to be quite so complete as the registration of marriages. The deficiency in the registration of births is probably greatest for births in the families of Californians and other Americans, since foreign born families from training abroad appear to realize the importance of promptly registering the births of their children. This deficiency in the registration of the births of children born to American mothers may account in part for the fact that the figures for California in 1913 and 1912 indicate that the fecundity of foreign born women is greater than that of native women. However, the recent data for California agree with the results of earlier statistical investigations in other states, so that it is quite safe to conclude that foreign born women surpass the natives, whether born in California or elsewhere, in the proclivity to bear children.

TABLE 14.—Births Classified by Sex and Race, and

County	Total births	Male	Female	White			Negro	Indian
				Total	Male	Female		
CALIFORNIA	43,852	22,099	21,153	40,864	21,057	19,807	343	49
Alameda	4,406	2,261	2,145	4,107	2,102	2,005	45	
Alpine	6	4	2	6	4	2		
Amador	108	47	61	106	47	59		1
Butte	461	267	194	441	259	182	1	2
Calaveras	104	58	46	104	58	46		
Colusa	96	52	44	88	46	42	2	
Contra Costa	632	340	292	610	327	283	1	
Del Norte	24	13	11	24	13	11		
El Dorado	92	54	38	92	54	38		
Fresno	1,623	831	792	1,474	760	714	10	
Glenn	113	53	60	111	51	60		
Humboldt	406	207	199	400	205	195		6
Imperial	257	128	129	242	120	122	4	
Inyo	15	6	9	15	6	9		
Kern	620	302	318	589	282	307	5	1
Kings	249	129	120	223	111	112	2	
Lake	79	41	38	78	41	37		1
Lassen	45	28	17	45	28	17		
Los Angeles	11,937	6,224	5,743	11,207	5,812	5,395	199	7
Madera	153	80	73	149	78	71	1	3
Marin	219	125	94	213	121	92	2	
Mariposa	25	13	12	25	13	12		
Mendocino	338	169	169	327	164	163		6
Merced	276	130	146	267	126	141	2	
Modoc	88	46	42	88	46	42		
Mono	2		2	2		2		
Monterey	348	181	167	293	143	150	1	
Napa	166	87	79	163	87	76		
Nevada	133	62	71	131	60	71		
Orange	721	370	351	679	347	332		
Placer	320	160	160	240	117	123		
Plumas	50	26	24	47	24	23		2
Riverside	575	292	283	546	278	268	9	2
Sacramento	1,584	816	768	1,274	634	640	9	3
San Benito	132	55	77	118	48	70	1	
San Bernardino	999	479	520	990	469	511	2	1
San Diego	1,574	839	735	1,544	822	722	8	
San Francisco	7,552	3,897	3,655	7,132	3,683	3,449	23	
San Joaquin	715	384	331	570	301	269	1	
San Luis Obispo	283	144	139	277	138	139		
San Mateo	479	250	229	461	245	216	1	
Santa Barbara	429	221	208	384	193	188	2	1
Santa Clara	1,427	781	646	1,268	680	588	1	
Santa Cruz	395	215	180	310	159	151		
Sbasta	226	118	108	224	118	106		2
Sierra	30	23	7	30	23	7		
Siskiyou	207	104	103	203	102	101		4
Solano	352	182	171	313	161	152	3	
Sonoma	704	343	361	681	332	349		1
Stanislaus	529	286	243	522	282	240	2	
Sutter	142	78	64	135	73	62		
Tehama	126	63	73	134	63	71		
Trinity	29	19	10	28	18	10		1
Tulare	613	303	310	592	290	302	1	2
Tuolumne	47	24	23	46	24	22		1
Ventura	247	128	119	241	124	117		1
Yolo	178	95	83	158	83	75	1	
Yuba	125	66	59	107	59	48	1	1

by Sex and Nativity of Mothers, for Counties: 1913.

Chinese	Japanese	White children with mothers—								
		Born in California			Born in other states			Foreign born		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
351	2,215	12,864	6,675	6,189	16,805	8,365	7,940	11,695	6,017	5,678
68	191	1,764	906	858	1,190	597	593	1,153	599	554
		3	1	2	2	2		1	1	
1		68	29	39	10	7	3	28	11	17
4	13	205	121	84	186	105	81	50	33	17
		68	41	27	16	9	7	20	8	12
	6	55	30	25	20	11	9	13	5	8
	21	224	123	101	164	85	79	222	119	103
		6	4	2	14	6	8	4	3	1
		59	37	22	21	12	9	12	5	7
14	125	340	174	166	665	337	328	469	249	220
1	1	42	20	22	49	21	28	20	10	10
		177	91	86	92	43	49	131	71	60
	11	24	14	10	171	84	87	47	22	25
		8	4	4	7	2	5			
11	14	132	70	62	350	164	186	107	48	59
6	18	79	37	42	98	49	49	46	25	21
		58	30	28	19	8	11	3	3	
		31	18	13	10	7	8	4	3	1
22	532	1,687	888	799	6,473	3,377	3,096	3,047	1,547	1,500
		55	23	32	67	38	29	27	17	10
1	3	77	43	34	43	27	16	93	51	42
		20	11	9	3	1	2	2	1	1
3	2	161	79	82	73	38	35	93	47	46
	7	82	35	47	80	38	42	105	53	52
		50	26	24	35	18	17	3	2	1
		1		1	1		1			
2	52	167	88	79	62	28	34	64	27	37
1	2	90	47	43	42	22	20	31	18	13
2		69	28	41	24	10	14	38	22	16
	42	153	80	73	430	217	213	93	50	46
2	78	117	57	60	80	36	44	43	24	19
1		33	19	14	9	2	7	5	3	2
	18	101	52	49	330	168	162	115	58	57
21	277	561	288	293	380	196	184	333	170	163
1	12	72	29	43	15	7	8	31	12	19
	16	171	78	93	546	290	286	263	131	132
2	20	235	130	105	993	537	459	313	155	158
180	214	2,836	1,466	1,370	1,314	671	643	2,062	1,546	1,436
18	126	273	151	122	199	94	105	98	56	42
1	5	155	77	78	71	37	34	51	24	27
	12	151	88	63	83	39	44	227	118	109
3	39	156	83	73	144	71	73	84	42	42
8	150	461	248	213	340	177	163	467	255	212
3	82	144	77	67	96	47	49	70	35	35
		122	61	61	63	34	29	39	23	16
		21	17	4	4	2	2	5	4	1
		76	40	36	58	29	29	69	33	36
2	35	161	82	79	72	35	37	80	44	36
	22	346	181	165	143	66	77	192	86	107
	5	156	81	75	274	153	116	92	43	49
1	6	73	38	35	42	24	18	20	11	9
	2	59	31	28	67	27	40	8	5	8
		21	14	7	6	3	3	1	1	
	18	147	71	76	352	172	180	98	47	46
		25	12	13	11	6	5	10	6	4
	5	87	41	46	112	61	51	42	22	20
	19	82	45	37	51	27	24	25	11	14
2	14	69	40	29	30	16	14	8	3	5

: TABLE 15.—Births Classified by Sex and Race, and by

County	Total births	Male	Female	White			Negro	Indian
				Total	Male	Female		
CALIFORNIA	39,330	20,231	19,099	37,194	19,098	18,101	319	29
Alameda	3,893	1,976	1,917	3,635	1,855	1,780	53	---
Alpine	3	3	---	3	3	---	---	---
Amador	92	54	38	92	54	38	---	---
Butte	473	254	219	461	245	216	1	2
Calaveras	97	43	54	96	42	54	---	1
Colusa	97	49	48	97	49	48	---	---
Contra Costa	483	243	240	475	238	237	---	---
Del Norte	31	13	18	31	13	18	---	---
El Dorado	106	54	52	106	54	52	---	---
Fresno	1,678	895	783	1,561	882	729	12	---
Glenn	127	60	67	126	60	66	---	---
Humboldt	475	237	238	468	231	237	---	7
Imperial	184	91	93	180	90	90	2	---
Inyo	9	8	1	8	7	1	1	---
Kern	541	296	245	520	298	232	5	1
Kings	243	136	107	235	131	104	---	---
Lake	76	42	34	74	41	33	---	1
Lassen	46	22	24	45	21	24	---	---
Los Angeles	10,408	5,351	5,057	9,857	5,074	4,778	183	1
Madera	125	66	59	123	65	58	1	1
Marin	251	122	129	245	119	126	---	---
Mariposa	23	16	7	21	16	5	---	---
Mendocino	204	108	93	199	107	92	---	3
Merced	270	138	132	265	138	129	---	---
Modoc	79	35	44	79	35	44	---	---
Mono	8	7	1	7	6	1	---	---
Monterey	306	157	151	273	134	139	---	---
Napa	174	88	86	171	86	85	---	---
Nevada	160	84	76	156	81	75	---	---
Orange	638	303	335	611	294	317	1	---
Placer	228	124	104	189	100	89	---	---
Plumas	55	29	26	55	29	26	---	---
Riverside	553	276	277	518	263	255	14	5
Sacramento	1,338	689	649	1,133	564	589	5	---
San Benito	136	69	67	128	63	65	---	---
San Bernardino	927	459	468	912	455	457	2	---
San Diego	1,079	554	525	1,066	548	518	3	---
San Francisco	6,954	3,576	3,378	6,609	3,391	3,218	20	---
San Joaquin	601	322	279	504	265	239	1	---
San Luis Obispo	268	152	116	263	150	113	---	---
San Mateo	431	213	218	418	206	212	1	---
Santa Barbara	464	252	212	444	241	203	1	---
Santa Clara	1,355	677	678	1,263	619	644	3	---
Santa Cruz	388	196	192	324	160	164	---	---
Shasta	238	126	112	237	125	112	---	---
Sierra	33	19	14	33	19	14	---	---
Siskiyou	224	126	96	216	120	96	---	6
Solano	347	189	158	323	177	146	4	---
Sonoma	540	266	274	523	255	268	---	---
Stanislaus	558	283	275	557	282	275	---	---
Sutter	89	47	42	85	44	41	---	---
Tehama	113	60	53	110	59	51	1	1
Trinity	29	15	14	29	15	14	---	---
Tulare	521	264	257	512	257	256	---	---
Tuolumne	44	19	25	44	19	25	---	---
Ventura	263	140	123	252	133	119	---	---
Yolo	147	80	67	135	73	62	5	---
Yuba	105	58	47	97	54	43	---	---

Sex and Nativity of Mothers, for Counties: 1912.

Chinese	Japa- nese	White children with mothers--								
		Born in California			Born in other states			Foreign born		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
321	1,467	11,864	6,055	5,809	14,613	7,581	7,032	10,717	5,457	5,260
44	161	1,516	800	716	1,086	543	543	1,033	512	521
		1	1		1	1		1	1	
		55	30	25	8	4	4	29	20	9
3	6	218	121	97	202	100	102	41	24	17
		64	27	37	19	10	9	13	5	8
		63	31	32	25	13	12	9	5	4
	8	164	83	81	125	57	68	183	98	88
		8	3	5	17	8	9	6	2	4
		70	35	35	21	12	9	15	7	8
6	90	356	200	156	710	368	342	495	264	231
	1	53	24	29	55	30	25	18	6	12
		210	118	92	102	46	56	156	67	89
	2	15	5	10	137	70	67	28	15	13
		3	3		4	3	1	1	1	
8	7	142	85	57	274	151	123	104	52	52
2	6	74	42	32	109	64	45	52	25	27
	1	55	31	24	15	7	8	4	3	1
	1	32	13	19	9	5	4	4	3	1
17	355	1,406	748	748	5,693	2,985	2,708	2,663	1,341	1,322
		46	23	23	43	22	21	34	20	14
1	5	98	52	46	44	23	21	103	44	59
2		11	10	1	8	6	2	2		2
1	1	99	63	36	40	21	19	60	23	37
1	4	94	45	49	86	49	36	86	42	44
		41	15	26	35	18	17	3	2	1
	1	3	2	1	2	2		2	2	
2	33	150	73	77	38	21	17	85	40	45
	3	74	33	41	50	31	19	47	22	25
3	1	78	43	35	33	21	12	45	17	27
	26	138	61	77	386	187	199	87	46	41
3	36	94	52	42	65	33	32	30	15	15
		34	16	18	14	8	6	7	5	2
1	15	94	58	36	314	149	165	110	56	54
16	184	535	264	271	324	174	150	274	126	148
2	6	79	38	41	25	14	11	24	11	13
	13	154	70	84	523	272	251	235	113	122
5	5	205	105	100	632	324	308	229	119	110
163	162	2,601	1,279	1,322	1,166	617	549	2,842	1,495	1,347
12	84	242	118	124	170	98	72	92	49	43
2	3	135	82	53	87	46	41	41	22	19
4	8	162	81	81	75	43	32	181	82	99
1	18	191	111	80	132	67	65	121	63	58
6	83	476	237	239	346	171	175	441	211	230
3	61	147	71	76	104	50	54	73	39	34
	1	133	67	66	71	39	32	33	19	14
		27	15	12	4	2	2	2	2	
2		81	46	35	69	34	35	66	40	26
5	15	163	84	79	97	55	42	63	38	25
	17	219	106	113	145	70	75	159	79	80
	1	159	78	81	288	144	144	110	60	50
3	1	44	21	23	23	15	13	13	8	5
	1	50	30	20	45	21	24	15	8	7
		26	12	14	2	2		1	1	
1	2	131	65	66	313	147	166	68	45	23
		26	10	16	12	5	7	6	4	2
2	9	90	43	47	118	65	53	44	25	19
	7	74	42	32	44	24	20	17	7	10
	8	65	34	31	24	14	10	8	6	2

TABLE 16.—Births Classified by Sex and Race, and

City	Total births	Male	Female	White			Negro	Indian
				Total	Male	Female		
32 FREEHOLDERS' CHAR- TER CITIES	27,759	14,278	13,481	26,076	13,377	12,699	303	8
*Alameda County	343	183	160	314	165	149	1	
Alameda City	372	194	173	325	167	158	1	
Berkeley town	737	371	366	712	356	356	1	
Oakland City	2,954	1,513	1,441	2,756	1,414	1,342	42	
*Contra Costa County	335	183	152	319	173	148		
Richmond City	297	157	140	291	154	137	1	
*Fresno County	967	512	455	872	467	405	5	
Fresno City	656	319	337	602	293	309	5	
*Humboldt County	188	88	100	184	86	98		4
Eureka City	218	119	99	216	119	97		2
*Los Angeles County	2,323	1,248	1,075	2,104	1,128	976	6	4
Long Beach City	450	258	192	433	247	186		
Los Angeles City	8,216	4,242	3,974	7,719	3,976	3,743	174	3
Pasadena City	638	305	333	617	298	324	16	
Pomona City	150	70	80	149	69	80		
Santa Monica City	190	101	89	185	99	83	3	
Marin County	180	103	77	176	101	75		
San Rafael City	39	22	17	37	20	17	2	
*Monterey County	221	122	99	174	90	84		
Monterey City	69	26	43	61	20	41	1	
Salinas City	58	33	25	58	33	25		
*Napa County	86	45	41	83	45	38		
Napa City	80	42	38	80	42	38		
*Nevada County	109	52	57	108	51	57		
Grass Valley City	24	10	14	23	9	14		
*Riverside County	293	147	146	288	145	143	1	1
Riverside City	282	145	137	283	133	125	8	1
*Sacramento County	301	176	125	137	80	57		2
Sacramento City	1,233	640	643	1,137	554	583	9	1
*San Bernardino County	752	356	393	738	348	390	2	1
San Bernardino City	247	123	124	242	121	121		
*San Diego County	403	234	169	396	232	166		
San Diego City	1,171	605	566	1,146	590	556	8	
San Francisco (City and County)	7,552	3,897	3,655	7,132	3,683	3,449	26	
*San Joaquin County	478	260	218	374	194	180	1	
Stockton City	237	124	113	196	107	89		
*San Luis Obispo County	177	88	89	172	83	89		
San Luis Obispo City	106	56	50	105	55	50		
*Santa Barbara County	258	139	119	221	117	104	1	
Santa Barbara City	171	82	89	163	79	84	1	1
*Santa Clara County	807	453	354	681	372	309		
Palo Alto City	34	19	15	29	17	12		
San Jose City	566	309	277	558	291	267	1	
*Santa Cruz County	87	46	41	80	41	39		
Santa Cruz City	121	63	58	121	63	58		
Watsonville City	187	106	81	109	55	54		
*Solano County	153	72	81	124	57	67		
Vallejo City	200	110	90	189	104	85	3	
*Sonoma County	390	192	198	373	183	190		1
Petaluma City	130	63	67	129	63	66		
Santa Rosa City	134	88	96	179	86	98		
*Stanislaus County	409	220	189	403	217	186	1	
Modesto City	120	66	54	119	65	54	1	

by Sex and Nativity of Mothers, for Cities: 1913.

Chinese	Japa- nese	White children with mothers—								
		Born in California			Born in other states			Foreign born		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
314	1,058	7,846	4,052	3,794	10,048	5,166	4,892	8,182	4,169	4,013
1	27	151	78	73	55	27	28	108	60	48
3	43	155	84	71	100	50	50	70	33	37
4	20	274	147	127	127	257	120	137	131	89
55	101	1,184	597	587	778	400	378	794	417	377
-----	16	127	64	63	60	34	26	132	75	57
-----	5	97	59	38	104	51	53	90	44	46
2	88	183	102	81	429	219	210	260	146	114
12	37	157	72	85	236	118	118	209	103	106
-----	86	40	46	35	14	21	63	32	31	31
-----	91	51	40	57	29	28	68	39	29	29
-----	209	348	206	142	1,261	668	593	495	254	241
-----	17	45	23	22	323	191	132	65	33	32
22	296	1,159	587	572	4,229	2,199	2,030	2,331	1,190	1,141
-----	5	69	36	33	440	210	230	108	47	61
-----	1	24	10	14	111	52	59	14	7	7
-----	2	42	26	16	109	57	52	34	16	18
1	3	67	38	29	33	20	13	76	43	33
-----	10	5	5	5	10	7	3	17	8	9
2	45	101	57	44	37	17	20	36	16	20
-----	7	81	9	22	14	6	8	16	5	11
-----	35	22	13	11	5	6	12	6	6	6
1	2	47	24	23	16	10	6	20	11	9
-----	43	23	20	26	12	14	11	7	4	4
1	55	21	34	20	9	11	33	21	12	12
1	14	7	7	4	4	1	3	5	1	4
-----	3	64	31	33	166	82	84	58	32	26
-----	15	37	21	16	164	86	78	57	26	31
12	150	64	37	27	44	25	19	29	18	11
9	127	497	231	266	336	171	165	304	152	152
-----	11	126	54	72	409	193	216	208	101	102
-----	5	45	24	21	137	67	70	60	30	30
-----	5	66	40	26	256	146	110	76	46	30
2	15	169	90	79	740	391	349	237	109	128
180	214	2,336	1,466	1,370	1,314	671	643	2,962	1,546	1,436
5	96	172	96	76	142	65	77	60	33	27
13	28	101	55	46	57	29	28	38	23	15
-----	5	97	46	51	37	20	17	38	17	21
1	58	81	27	34	17	17	13	7	6	6
1	35	112	63	49	63	31	32	46	23	23
2	4	44	20	24	31	40	41	38	19	19
2	124	248	132	116	203	109	94	230	131	99
-----	5	11	7	4	11	6	5	7	4	3
6	21	202	109	93	126	62	64	230	120	110
-----	7	33	12	21	27	17	10	20	12	8
-----	51	29	22	47	23	24	23	11	12	12
3	60	36	24	22	7	15	27	12	15	15
1	28	60	24	36	23	11	17	36	22	14
1	7	101	53	43	44	24	20	44	22	22
-----	16	193	94	99	69	39	30	111	50	61
-----	1	71	38	33	25	10	15	33	15	18
-----	5	82	49	33	49	17	32	48	20	28
-----	5	105	51	54	222	131	91	76	35	41
-----	51	30	21	52	27	25	16	8	8	8

*Figures are for county exclusive of freeholders' charter city or cities.

TABLE 17.—Births Classified by Sex and Race, and

City	Total births	Male	Female	White			Negro	Indian
				Total	Male	Female		
31 FREEHOLDERS' CHAR- TER CITIES	24,827	12,721	12,106	23,494	12,030	11,464	276	3
Alameda County	302	140	162	278	134	144	4	-----
Alameda City	357	184	173	315	168	147	2	-----
Berkeley City	629	343	286	600	324	276	2	-----
Oakland City	2,605	1,309	1,296	2,442	1,229	1,213	45	-----
Contra Costa County	250	130	120	244	125	119	-----	-----
Richmond City	233	113	120	231	113	118	-----	-----
Fresno County	1,018	575	443	942	533	409	7	-----
Fresno City	660	320	340	619	299	320	5	-----
Humboldt County	213	103	110	208	99	109	-----	5
Eureka City	262	134	128	260	132	128	-----	2
Los Angeles County	1,931	976	955	1,805	905	900	6	-----
Long Beach City	346	180	166	336	174	162	2	-----
Los Angeles City	7,232	3,729	3,533	6,870	3,543	3,327	152	1
Pasadena City	554	305	249	533	294	239	17	-----
Pomona City	172	90	82	170	89	81	1	-----
Santa Monica City	143	71	72	138	69	69	5	-----
Monterey County	162	79	83	141	63	75	-----	-----
Monterey City	75	41	34	63	33	30	-----	-----
Salinas City	71	37	34	69	35	34	-----	-----
Napa County	90	48	42	88	46	42	-----	-----
Napa City	84	40	44	83	40	43	-----	-----
Nevada County	118	64	54	116	63	53	-----	-----
Grass Valley City	42	20	22	40	18	22	-----	-----
Riverside County	274	139	135	265	136	129	3	5
Riverside City	279	137	142	253	127	126	11	-----
Sacramento County	258	142	116	142	71	71	-----	-----
Sacramento City	1,080	547	533	991	493	498	5	-----
San Bernardino County	737	367	370	728	363	332	2	-----
San Bernardino City	190	92	98	184	89	95	-----	-----
San Diego County	317	160	157	317	160	157	-----	-----
San Diego City	762	394	368	749	388	361	3	-----
San Francisco (City and County)	6,954	3,576	3,378	6,009	3,391	3,218	20	-----
San Joaquin County	288	167	121	223	128	95	-----	-----
Stockton City	313	155	158	281	137	144	1	-----
San Luis Obispo County	144	79	65	141	78	63	-----	-----
San Luis Obispo City	124	73	51	122	72	50	-----	-----
Santa Barbara County	274	152	122	256	143	113	1	-----
Santa Barbara City	190	100	90	188	98	90	-----	-----
Santa Clara County	783	398	385	719	359	360	-----	-----
Palo Alto City	49	23	23	43	23	20	-----	-----
San Jose City	523	253	270	501	237	264	3	-----
Santa Cruz County	85	40	45	73	35	38	-----	-----
Santa Cruz City	141	76	65	136	72	64	-----	-----
Watsonville City	162	80	82	115	53	62	-----	-----
Solano County	165	87	78	148	80	68	2	-----
Vallejo City	182	102	80	175	97	78	2	-----
Sonoma County	288	136	152	275	125	150	-----	-----
Petaluma City	79	38	41	78	38	40	-----	-----
Santa Rosa City	173	92	81	170	92	78	-----	-----
Stanislaus County	427	219	208	427	219	208	-----	-----
Modesto City	131	64	67	130	63	67	-----	-----

BUREAU OF VITAL STATISTICS.

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by Sex and Nativity of Mothers, for Cities: 1912.

Chinese	Japanese	White children with mothers								
		Born in California			Born in other states			Foreign born		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
201	793	7,118	3,588	3,530	8,878	4,609	4,269	7,498	3,833	3,665
1	19	142	70	72	50	25	25	86	39	47
2	38	139	78	61	92	43	49	84	47	37
3	24	236	130	106	230	124	106	134	70	64
38	80	999	522	477	714	351	333	729	356	373
-----	6	101	53	48	43	19	24	100	53	47
-----	2	63	30	33	82	38	44	86	45	41
1	68	201	125	76	471	251	220	270	157	113
5	31	155	75	80	239	117	122	225	107	118
-----		90	49	41	48	21	27	70	29	41
-----		120	69	51	54	25	29	86	38	48
-----	120	821	150	171	1,033	540	493	451	215	236
-----	8	33	17	16	259	136	123	44	21	23
17	222	1,021	517	504	3,807	1,988	1,819	2,042	1,038	1,004
-----	4	58	32	26	385	212	173	90	50	40
-----	1	42	22	20	115	61	54	13	6	7
-----		21	10	11	94	48	46	23	11	12
-----	21	81	39	42	11	8	3	49	19	30
2	10	34	17	17	13	7	6	16	9	7
-----	2	35	17	18	14	6	8	20	12	8
-----	2	48	25	23	18	11	7	22	10	12
-----	1	26	8	18	32	20	12	25	12	13
1	1	56	34	22	25	16	9	35	13	22
2	-----	22	9	13	8	5	3	10	4	6
-----	1	58	36	22	153	73	80	54	27	27
1	14	36	22	14	161	76	85	56	29	27
11	105	69	35	34	42	20	22	31	16	15
5	79	466	229	237	282	154	128	243	110	133
-----	7	112	52	60	426	221	205	190	93	97
-----	6	42	18	24	97	51	46	45	20	25
-----		75	36	39	184	96	88	58	28	30
5	5	130	69	61	448	228	220	171	91	80
163	162	2,601	1,279	1,322	1,166	617	549	2,842	1,496	1,347
7	58	97	56	41	87	51	36	39	21	18
5	26	145	62	83	83	47	36	53	28	25
-----	3	68	39	29	44	22	22	29	17	12
2	-----	67	43	24	43	24	19	12	5	7
1	16	125	74	51	70	35	35	61	34	27
-----	2	66	37	29	62	32	30	60	29	31
-----	64	273	141	132	223	108	115	223	110	113
-----	6	13	5	8	19	11	8	11	7	4
6	13	190	91	99	104	52	52	207	94	113
-----	12	24	12	12	25	14	11	24	9	15
1	4	60	28	32	48	27	21	28	17	11
2	45	68	31	32	31	9	22	21	13	8
3	12	78	40	38	42	22	20	28	18	10
2	3	85	44	41	55	33	22	35	20	15
-----	13	116	52	64	72	35	37	87	38	49
-----	1	30	14	16	20	7	13	28	17	11
-----	3	73	40	33	53	28	25	44	24	20
-----		112	55	57	220	112	108	95	52	43
-----	1	47	23	24	68	32	36	15	8	7

TABLE 18.—Births Classified by Sex, Race, and Nativity of Mothers, with Per Centa by Sex for Geographic Divisions: 1913 and 1912.

Geographic division and race or nativity of mother	Births						Per cent male		Per cent female	
	Total		Male		Female		1913	1912	1913	1912
	1913	1912	1913	1912	1913	1912				
THE STATE-----	43,852	39,330	22,609	20,231	21,153	19,099	51.8	51.4	48.2	48.6
White-----	40,864	37,194	21,057	19,093	19,807	18,101	51.5	51.3	48.5	48.7
Born in California.....	12,864	11,884	6,675	6,065	6,189	5,809	51.9	51.0	48.1	49.0
Born in other states.....	16,305	14,613	8,365	7,581	7,960	7,082	51.3	51.9	48.7	48.1
Foreign born.....	11,695	10,717	6,017	5,457	5,678	5,260	51.4	50.9	48.6	49.1
Non-caucasian-----	2,988	2,136	1,642	1,138	1,346	998	55.0	53.3	45.0	46.7
Northern California-----	3,918	3,596	2,025	1,862	1,898	1,734	51.7	51.8	48.3	48.2
White-----	3,725	3,481	1,929	1,789	1,796	1,692	51.8	51.4	48.2	48.6
Born in California.....	1,879	1,704	992	894	897	810	52.8	52.5	47.2	47.5
Born in other states.....	1,066	1,050	528	538	538	512	49.5	51.2	50.5	48.8
Foreign born.....	780	727	409	357	371	370	52.4	49.1	47.6	50.9
Non-caucasian-----	193	115	96	73	97	42	49.7	63.5	50.3	36.5
Coast counties-----	1,746	1,529	879	769	867	760	50.3	50.3	49.7	49.7
White-----	1,701	1,495	860	748	841	740	50.6	50.0	49.4	50.0
Born in California.....	857	691	446	366	411	325	52.0	53.0	48.0	47.0
Born in other states.....	389	371	183	185	203	186	47.8	49.9	52.2	50.1
Foreign born.....	455	433	228	197	227	236	50.1	45.5	49.9	54.5
Non-caucasian-----	45	34	19	21	26	13	42.2	61.8	57.8	38.2
Interior counties-----	2,172	2,067	1,146	1,093	1,028	974	52.8	52.9	47.2	47.1
White-----	2,024	1,986	1,069	1,041	965	945	52.8	52.4	47.2	47.6
Born in California.....	1,022	1,013	546	528	476	485	53.4	52.1	48.6	47.9
Born in other states.....	677	679	342	353	335	326	50.5	52.0	49.5	48.0
Foreign born.....	325	294	181	160	144	134	55.7	54.4	44.3	45.6
Non-caucasian-----	148	81	77	52	71	29	52.0	64.2	48.0	35.8
Central California-----	23,165	21,218	11,993	10,943	11,172	10,275	51.8	51.6	48.2	48.4
White-----	21,316	19,878	10,900	10,206	10,356	9,672	51.4	51.3	48.6	48.7
Born in California.....	8,371	7,777	4,317	3,930	4,064	3,817	51.6	50.9	48.4	49.1
Born in other states.....	6,037	5,628	3,062	2,924	2,975	2,704	50.7	52.0	49.3	48.0
Foreign born.....	6,908	6,473	3,581	3,322	3,327	3,151	51.8	51.3	48.2	48.7
Non-caucasian-----	1,849	1,340	1,033	737	816	603	55.9	55.0	44.1	45.0
San Francisco-----	7,552	6,954	3,897	3,576	3,655	3,378	51.6	51.4	48.4	48.6
White-----	7,132	6,609	3,683	3,391	3,449	3,218	51.6	51.3	48.4	48.7
Born in California.....	2,836	2,601	1,466	1,279	1,370	1,322	51.7	49.2	48.3	50.8
Born in other states.....	1,314	1,166	671	617	643	549	51.1	52.9	48.9	47.1
Foreign born.....	2,982	2,842	1,546	1,495	1,436	1,347	51.8	52.6	48.2	47.4
Non-caucasian-----	420	345	214	185	206	160	51.0	53.6	49.0	43.4
Other bay counties.....	5,736	5,068	2,976	2,554	2,760	2,504	51.9	50.5	48.1	49.5
White-----	5,391	4,773	2,795	2,418	2,506	2,355	51.8	50.7	48.2	49.3
Born in California.....	2,216	1,940	1,160	1,016	1,056	924	52.3	52.4	47.7	47.6
Born in other states.....	1,480	1,330	748	666	732	684	50.5	50.1	49.5	49.9
Foreign born.....	1,665	1,503	887	736	806	767	52.3	49.0	47.7	51.0
Non-caucasian-----	345	285	181	136	164	149	52.5	47.7	47.5	52.3
Coast counties-----	2,585	2,455	1,376	1,251	1,200	1,204	53.2	51.0	46.8	49.0
White-----	2,266	2,251	1,168	1,126	1,098	1,125	51.5	50.0	48.5	50.0
Born in California.....	999	987	519	501	480	486	52.0	50.8	48.0	49.2
Born in other states.....	584	600	296	302	288	296	50.7	50.3	49.3	49.7
Foreign born.....	683	664	353	323	330	341	51.7	48.6	48.3	51.4
Non-caucasian-----	319	204	208	125	111	79	66.2	61.3	34.8	38.7
Interior counties-----	7,292	6,751	3,744	3,562	3,548	3,189	51.3	52.8	48.7	47.2
White-----	6,527	6,245	3,314	3,271	3,213	2,974	50.8	52.4	49.2	47.6
Born in California.....	2,320	2,249	1,172	1,164	1,148	1,085	50.5	51.8	49.5	48.2
Born in other states.....	2,659	2,532	1,347	1,339	1,312	1,193	50.7	52.9	49.3	47.1
Foreign born.....	1,548	1,464	795	768	753	696	51.4	52.5	48.6	47.5
Non-caucasian-----	765	506	430	291	335	215	56.2	57.5	43.8	42.5

TABLE 18—Continued.

Geographic division and race or nativity of mother	Births						Per cent male		Per cent female	
	Total		Male		Female		1913	1912	1913	1912
	1913	1912	1913	1912	1913	1912				
<i>Southern California</i>	16,769	14,516	8,681	7,426	8,088	7,090	51.8	51.2	48.2	48.8
White	15,823	13,835	8,168	7,096	7,655	6,737	51.6	51.3	48.4	48.7
Born in California.....	2,614	2,383	1,366	1,201	1,248	1,182	52.3	50.4	47.7	49.6
Born in other states.....	9,202	7,935	4,775	4,119	4,427	3,816	51.9	51.9	48.1	48.1
Foreign born	4,007	3,517	2,027	1,778	1,990	1,789	50.6	50.6	49.4	49.4
Non-caucasian	946	681	513	328	433	353	54.2	48.2	45.8	51.8
Los Angeles	11,967	10,408	6,224	5,351	5,743	5,057	52.0	51.4	48.0	48.6
White	11,207	9,852	5,812	5,074	5,395	4,778	51.9	51.5	48.1	48.5
Born in California.....	1,687	1,496	888	748	799	748	52.6	50.0	47.4	50.0
Born in other states.....	6,473	5,693	3,377	2,965	3,096	2,708	52.2	52.4	47.8	47.6
Foreign born	3,047	2,693	1,547	1,341	1,500	1,322	50.8	50.4	49.2	49.6
Non-caucasian	760	566	412	277	348	279	54.2	49.8	46.8	50.2
Other counties	4,802	4,108	2,457	2,075	2,345	2,033	51.2	50.5	48.8	49.5
White	4,616	3,963	2,356	2,024	2,260	1,959	51.0	50.8	49.0	49.2
Born in California.....	927	887	478	453	449	434	51.6	51.1	48.4	48.9
Born in other states.....	2,729	2,242	1,398	1,184	1,331	1,108	51.2	50.6	48.8	49.4
Foreign born	960	864	480	437	480	417	50.0	51.2	50.0	48.8
Non-caucasian	186	125	101	51	85	74	54.3	40.8	45.7	59.2
<i>Northern and Central California</i>	27,083	24,314	14,018	12,805	13,065	12,009	51.8	51.6	48.2	48.4
White	25,041	23,359	12,889	11,995	12,152	11,304	51.5	51.4	48.5	48.6
Born in California.....	10,250	9,481	5,309	4,854	4,941	4,627	51.8	51.2	48.2	48.8
Born in other states.....	7,103	6,678	3,500	3,462	3,513	3,216	50.5	51.8	49.5	48.2
Foreign born	7,688	7,200	3,990	3,679	3,698	3,521	51.9	51.1	48.1	48.9
Non-caucasian	2,042	1,455	1,129	810	913	645	55.3	55.7	44.7	44.3
Coast counties	17,619	15,996	9,128	8,150	8,491	7,846	51.8	51.0	48.2	49.0
White	16,490	15,128	8,506	7,683	7,964	7,445	51.6	50.8	48.4	49.2
Born in California.....	6,908	6,219	3,591	3,162	3,317	3,057	52.0	50.8	48.0	49.2
Born in other states.....	3,767	3,467	1,901	1,770	1,866	1,697	50.5	51.1	49.5	48.9
Foreign born	5,815	5,442	3,014	2,751	2,801	2,691	51.8	50.6	48.2	49.4
Non-caucasian	1,129	868	622	467	507	401	55.1	53.8	44.9	46.2
Interior counties	9,464	8,818	4,890	4,655	4,574	4,163	51.7	52.8	48.3	47.2
White	8,551	8,231	4,388	4,312	4,169	3,919	51.3	52.4	48.7	47.6
Born in California.....	3,342	3,262	1,718	1,692	1,624	1,570	51.4	51.9	48.6	48.1
Born in other states.....	3,336	3,211	1,689	1,692	1,647	1,519	50.6	52.7	49.4	47.3
Foreign born	1,873	1,758	976	925	897	830	52.1	52.8	47.9	47.2
Non-caucasian	913	587	507	343	406	244	55.5	58.4	44.5	41.6
Metropolitan area	13,288	12,012	6,873	6,130	6,415	5,882	51.7	51.0	48.3	49.0
White	12,523	11,382	6,478	5,809	6,045	5,573	51.7	51.0	48.3	49.0
Born in California.....	5,052	4,541	2,626	2,295	2,426	2,246	52.0	50.5	48.0	49.5
Born in other states.....	2,794	2,493	1,419	1,283	1,375	1,213	50.8	51.4	49.2	48.6
Foreign born	4,677	4,345	2,433	2,231	2,244	2,114	52.0	51.3	48.0	48.7
Non-caucasian	865	680	395	321	370	309	51.6	51.0	48.4	49.0
Rural counties	13,795	12,802	7,145	6,675	6,650	6,127	51.8	52.1	48.2	47.9
White	12,518	11,977	6,411	6,186	6,107	5,791	51.2	51.6	48.8	48.4
Born in California.....	5,198	4,940	2,683	2,559	2,515	2,381	51.6	51.8	48.4	48.2
Born in other states.....	4,309	4,182	2,171	2,179	2,138	2,003	50.4	52.1	49.6	47.9
Foreign born	3,011	2,855	1,557	1,448	1,454	1,407	51.7	50.7	48.3	49.3
Non-caucasian	1,277	825	734	489	543	336	57.5	59.3	42.5	40.7

TABLE 19.—Births Classified by Sex, Race, and Nativity of Mothers, with Per Cent by Sex, for Cities and Rest of State: 1913 and 1912.

Population group and race or nativity of mother	Births						Per cent male		Per cent female	
	Total		Male		Female		1913	1912	1913	1912
	1913	1912	1913	1912	1913	1912				
CALIFORNIA -----	48,852	39,330	22,699	20,231	21,153	19,099	51.8	51.4	48.2	48.6
White -----	40,864	37,194	21,057	19,093	19,307	18,101	51.5	51.3	48.5	48.7
Born in California....	12,864	11,834	6,675	6,055	6,189	5,809	51.9	51.0	48.1	49.0
Born in other states....	16,305	14,613	8,365	7,581	7,940	7,082	51.3	51.9	48.7	48.1
Foreign born -----	11,695	10,717	6,017	5,457	5,678	5,260	51.4	50.9	48.6	49.1
Non-caucasian -----	2,988	2,136	1,642	1,138	1,346	998	55.0	53.3	45.0	46.7
FREEHOLDERS' CHARTER CITIES -----	27,759	24,827	14,278	12,721	13,481	12,106	51.4	51.2	48.6	48.8
White -----	26,076	23,494	13,377	12,080	12,699	11,464	51.3	51.2	48.7	48.8
Born in California....	7,846	7,118	4,052	3,588	3,794	3,530	51.6	50.4	48.4	49.6
Born in other states....	10,048	8,878	5,156	4,609	4,892	4,269	51.3	51.9	48.7	48.1
Foreign born -----	8,182	7,498	4,169	3,833	4,013	3,665	51.0	51.1	49.0	48.9
Non-caucasian -----	1,683	1,333	901	691	782	642	53.5	51.8	45.5	48.2
REST OF STATE -----	16,093	14,503	8,421	7,510	7,672	6,993	52.3	51.8	47.7	48.2
White -----	14,788	13,700	7,690	7,063	7,108	6,637	51.9	51.6	48.1	48.4
Born in California....	5,018	4,746	2,623	2,467	2,395	2,279	52.3	52.0	47.7	48.0
Born in other states....	6,257	5,735	3,209	2,972	3,048	2,763	51.3	51.8	48.7	48.2
Foreign born -----	3,513	3,219	1,848	1,624	1,665	1,595	52.6	50.5	47.4	49.5
Non-caucasian -----	1,305	803	741	447	564	356	56.8	55.7	43.2	44.3

III. STATISTICS OF DEATHS: 1913 AND 1912.

SYNOPSIS.

Causes of Death.—Diseases of the circulatory system (heart disease, etc.) constitute the principal group of causes of death in California, the per cent of total deaths for this group being 16.3 in 1913 and 17.4 in 1912 against the annual average of 16.3 for 1909 to 1913, and the death rates per 100,000 population being 235.1 and 247.2 as compared with the annual average of 226.3 for the last five years.

Tuberculosis, however, is the leading single cause of death in this State, causing about one seventh of all deaths (14.0 per cent for both 1913 and 1912 against the average of 14.6 for 1909 to 1913). The tuberculosis death rate per 100,000 population was 202.2 in 1913 and 198.8 in 1912 against 202.4 for the five-year period.

The per cents of total deaths for diseases of the respiratory system (pneumonia, etc.) were 9.9 and 10.5 (against the average of 10.0), while the death rates per 100,000 population for this class of diseases were 142.5 and 148.9 (against the average of 138.4).

For diseases of the nervous system the per cents were 9.6 and 8.9 as compared with the average of 9.3, and the death rates were 139.2 in 1913 and 126.6 in 1912 as compared with the average of 128.7 for 1909 to 1913.

Other prominent causes of death in 1913 and 1912 were: Diseases of the digestive system, miscellaneous violence, cancer, and Bright's disease.

Typhoid fever, as usual, was the most fatal epidemic disease, causing 1.1 per cent of all deaths in 1913 and 1.2 per cent in 1912 against the average of 1.3 for the five-year period just ended. However, the deaths from typhoid fever decreased generally through the whole eight years last past, the successive totals being as follows: 657 (1906), 558, 540, 461, 477, 444, 454, and 436 (1913).

Other notable epidemic diseases present in 1913 and 1912 were: Whooping-cough, diphtheria and croup, measles, influenza, malarial fever, scarlet fever, smallpox (causing 15 deaths in 1913 and 16 in 1912), and plague (causing 2 deaths in 1913 against none in 1912).

Geographic Divisions.—Analysis of causes of death in different localities reveals marked contrasts between the several geographic divisions in the relative prevalence of various diseases.

In the coast counties of both Northern and Central California, as well as in Southern California outside Los Angeles, relatively high proportions of all deaths are due to diseases of the nervous system, the explanation being the presence of state hospitals in these three geographic divisions.

The interior counties of Northern California show high proportions for miscellaneous deaths from violence, as drowning, railroad injuries, other accidents, etc.

In the interior counties of both Central and Northern California, and also in the counties south of Tehachapi other than Los Angeles, the proportions are very high for typhoid fever.

Each year large proportions of all deaths in San Francisco and the other bay counties were from diseases of the circulatory system (heart disease, etc.) and also from pneumonia, San Francisco, furthermore, leading especially in the proportion of suicides among all decedents.

The proportion of deaths from tuberculosis was very high indeed each year in Los Angeles, as well as in the other counties of Southern California, on account of the many deaths occurring among newcomers from the East.

Contrast between mortality in the metropolitan area and in the rural counties north of Tehachapi shows that the urban territory excels in deaths from heart disease, Bright's disease, cancer, pneumonia, digestive ailments (except diarrhea), and suicide, as well as from diphtheria and croup, while the country districts excel in deaths from diseases of the nervous system, infantile diarrhea, accidental violence and "old age," as well as typhoid fever, malarial fever, scarlet fever, whooping-cough and measles.

Much the same contrast appears between mortality in chartered cities as a class and in all the rest of the State as a whole, the deaths from diarrhea and enteritis (under 2 years) being notably less within cities than outside them.

Tuberculosis.—The "great white plague" caused 5,402 deaths in 1913 and 5,128 in 1912, the per cent being 14.0 each year against the average of 14.6 for 1909 to 1913. The average per cent of total deaths from tuberculosis in the five years last past was no less than 18.6 for Southern California against only 12.6 for Northern and Central California together.

Among cities, the annual average per cent of tuberculosis deaths was highest for San Bernardino, Riverside, Pasadena, Los Angeles, Stockton, and San Diego, all except Stockton (with a state hospital) being in Southern California. The per cent was relatively low for Richmond, Long Beach, Berkeley, Santa Monica, Alameda, Palo Alto, Salinas, Vallejo, Santa Cruz, Oakland, and Fresno, all these cities except Long Beach and Santa Monica being north of Tehachapi.

Classification of deaths from tuberculosis by length of residence shows that north of Tehachapi many native Californians and old time residents succumb to this disease. The annual average per cent of native Californians among tuberculosis victims in 1909 to 1913 was 38.8 for Northern and Central California together against only 15.8 for Southern California, being 29.0 for the entire State. Similarly, the average per cent who had lived here at least 10 years was 28.4 for the territory north of Tehachapi as compared with only 20.2 for that to the south, being 24.9 for the State as a whole.

South of Tehachapi, on the other hand, deaths from tuberculosis occur largely among newly arrived consumptives. The annual average per cent of tuberculosis victims who had lived in the State less than 10 years was as great as 55.8 for Southern California against merely 18.1 for the territory north of Tehachapi and 34.2 for the whole State. Moreover, the length of residence in California was less than a year for an average of 16.8 per cent of the tuberculosis victims south of Tehachapi, the corresponding average per cent for the entire State being only 9.2. In fact, of all who died of tuberculosis in Southern California, an average of 1.8 per cent had been in the State less than

a month, 6.3 per cent less than three months, and altogether 11.1 per cent less than half a year.

Among tuberculosis victims in cities, the average per cents for residents of less than 10 years' standing in 1909 to 1913 were as follows: Pasadena, 66.4; Riverside, 59.9; San Diego, 58.6; San Bernardino, 57.4, and Los Angeles, 57.0. Moreover, the average per cents for residents of less than a single year's standing were thus: San Diego, 21.3; Pasadena, 19.1; Riverside, 18.0; Los Angeles, 15.9, and San Bernardino, 15.2.

Figures for 1910 to 1913 indicate that the months of greatest mortality from tuberculosis for California as a whole are February, March, April and May, while deaths from this disease are relatively least numerous in August, September, October and November.

In short, the death rate of California is evidently swollen considerably by deaths occurring here from disease contracted elsewhere. For where tuberculosis is most prevalent a large proportion of the victims are residents of very short standing. Moreover, infection from these newly arrived consumptives accounts for some of the deaths among native Californians and old-time residents.

Sex.—Of 38,599 decedents in 1913, the males were 23,807 and the females 14,792, while among the 36,709 in 1912 the males were 22,634 and the females 14,075. The per cent male was 61.7 for both 1913 and 1912 against the average of 62.0 for 1909 to 1913. Each year the per cent male was highest for Northern California and next for Central California.

The per cents male were above the general average for deaths from suicide, other violence, typhoid fever, pulmonary tuberculosis, Bright's disease, and heart disease, etc. The female decedents outnumbered the males each year only for whooping-cough, cancer, scarlet fever, influenza, and measles.

Race.—In 1913 the white decedents numbered 36,501; the Chinese, 707; the Japanese, 613; the negroes, 595, and the Indians, 183. The figures for 1912 were: White, 34,732; Chinese, 741; negroes, 543; Japanese, 524, and Indian, 169. The per cent white in each case was 94.6, or the same as the average for the last five years. Each year the per cent white was highest for Southern California.

The per cents white were very high for deaths from diphtheria and croup, influenza, measles, cancer, Bright's disease, and diseases of the circulatory, nervous, and respiratory systems.

The proportion of Caucasians among all decedents was low each year for typhoid fever, which causes many deaths of Japanese, and for tuberculosis, which kills many Chinese and negroes.

Nativity.—Of the white decedents in 1913 and 1912 those born in other states were 14,297 and 13,617; the foreign born were 11,404 and 10,936; those born in California were 9,675 and 9,143; and the nativity was unknown for 1,125 and 1,036. The per cent distribution of white decedents in 1913 and 1912, respectively, was: Other states, 39.2 each year; foreign countries, 31.2 and 31.5; California, 26.5 and 26.3; and unknown, 3.1 and 3.0. For 1909 to 1913, moreover, the annual average per cents were: Other American, 38.1; foreign, 31.7; Californian, 27.2; and unknown, 3.0.

The proportion born elsewhere in the United States is very high for Southern California, especially Los Angeles. The proportion foreign

born is notably great only for Central California, especially for San Francisco and the other bay counties. The proportion of native Californians among decedents was greatest each year in Central California, and next in Northern California.

The proportion of native Californians is especially great for deaths from early infancy, diarrhea and enteritis, whooping-cough, measles diphtheria and croup, scarlet fever, meningitis, tuberculosis other than pulmonary, pneumonia, typhoid fever, malarial fever and childbirth.

The per cents born in other states were above the general averages for deaths from influenza, diseases of the nervous system other than meningitis, Bright's disease, cancer, diseases of the circulatory system, diarrhea and enteritis (2 years and over), pulmonary tuberculosis, and general diseases other than tuberculosis and cancer (*i. e.*, diabetes, alcoholism, etc.).

The proportions foreign born were above the general averages for deaths from heart disease, etc., cancer, Bright's disease, suicide and other violence, and diseases of the respiratory, nervous and digestive systems except pneumonia, meningitis and diarrhea, respectively.

Age Periods.—The deaths in 1913 and 1912, respectively, were distributed by age periods as follows: Under 1 year, 4,336 and 3,942; 1 to 4 years, 1,631 and 1,616; 5 to 14 years, 1,048 and 977; 15 to 24 years, 2,273 and 2,252; 25 to 34 years, 3,762 and 3,636; 35 to 44 years, 4,215 and 4,062; 45 to 54 years, 4,670 and 4,489; 55 to 64 years, 5,037 and 4,747; and 65 years and over, 11,627 and 10,988.

The corresponding per cents for 1913 and 1912 were: Under 1 year, 11.2 and 10.8; 1 to 4 years, 4.2 and 4.4; 5 to 14 years, 2.7 each year; 15 to 24 years, 5.9 and 6.1; 25 to 34 years, 9.8 and 9.9; 35 to 44 years, 10.9 and 11.1; 45 to 54 years, 12.1 and 12.2; 55 to 64 years, 13.1 and 12.9; and 65 years and over, 30.1 and 29.9. Moreover, the annual average per cent distribution for 1911 to 1913 was: Under 1 year, 10.8; 1 to 4 years, 4.2; 5 to 14 years, 2.7; 15 to 24 years, 6.2; 25 to 35 years, 9.9; 35 to 44 years, 11.2; 45 to 54 years, 12.1; 55 to 64 years, 13.0; and 65 years and over, 29.9.

The median age of California decedents, half being younger and half older, was 49.36 years for 1913, and 49.16 years for 1912, as compared with 48.83 years for 1911.

The per cents of deaths under 15 years vary irregularly among geographic divisions. However, the per cents are relatively high at 15 to 44 years for Southern California, probably on account of deaths from tuberculosis; at 45 to 64 years for Central California, especially San Francisco; and at 65 years and over for Northern California.

Under 1 year occur large proportions of deaths from early infancy and infantile diarrhea, whooping-cough, measles, meningitis, and pneumonia.

At 1 to 4 years the diseases especially fatal are measles, scarlet fever, diphtheria and croup, whooping-cough, meningitis, diarrhea and enteritis, tuberculosis of other organs than the lungs, malarial fever, pneumonia and other diseases of the respiratory system, and miscellaneous violence (accidental injuries, etc.).

At 5 to 14 years the diseases causing exceptionally large proportions of deaths are diphtheria and croup, scarlet fever, meningitis, tuberculosis other than pulmonary, measles, typhoid fever, malarial fever, mis-

cellaneous violence, whooping-cough, diarrhea and other diseases of the digestive system, and general diseases other than tuberculosis and cancer.

The proportion of deaths is notably high for successive productive ages as follows: At 15 to 24 years for childbirth, typhoid fever, tuberculosis, suicide and other violence, and diseases of the digestive system other than diarrhea; at 25 to 34 years for childbirth, tuberculosis, typhoid fever, suicide and other violence; at 35 to 44 years for childbirth, suicide and other violence, tuberculosis, typhoid fever, general diseases (diabetes, alcoholism, etc.), and diseases of the digestive system except diarrhea; at 45 to 54 years for cancer, suicide and other violence, general diseases, diseases of the digestive system except diarrhea, pulmonary tuberculosis, Bright's disease, and diseases of the nervous system except meningitis; and at 55 to 64 years for cancer, Bright's disease, heart disease, etc., diseases of the nervous system except meningitis, general diseases, and diseases of the digestive system except diarrhea.

At 65 years and over the per cents are particularly high for deaths from influenza, miscellaneous causes (including "old age"), diseases of the circulatory system (heart disease, etc.), diseases of the respiratory system except pneumonia, diseases of the nervous system except meningitis, Bright's disease, senile diarrhea, and cancer.

Marital Condition of Decedents.—Exclusive of children under 15, the classification of the 19,946 male decedents in 1913 was: Single, 6,448; married, 8,837; widowed, 2,966; divorced, 290; and unknown, 1,405. The marital condition of the 11,638 females aged 15 and over was: Single, 1,427; married, 5,579; widowed, 4,322; divorced, 150; and unknown, 160.

The per cent distribution was as follows for male and female decedents, respectively: Single, 32.3 and 12.3; married, 44.3 and 47.9; widowed, 14.9 and 37.1; divorced, 1.5 and 1.3; and unknown, 7.0 and 1.4. Male decedents exceed in the per cent single, and females in the per cent widowed, the proportion married being about the same for each sex.

Among men the per cent single was much greater, and the per cent married much less, for the territory north of Tehachapi than for that to the north, similar contrasts appearing among women but in only slight degree. Southern California excels in the proportion of widowers and Northern and Central California in the proportion of widows among decedents.

The per cents single, among both men and women, were above general averages for deaths from typhoid fever, tuberculosis, suicide and other violence.

The proportion married was high among men for cancer, nervous diseases, Bright's disease, digestive ailments, and heart disease, etc., and among women for typhoid fever, tuberculosis, suicide, miscellaneous causes, cancer, digestive ailments, and Bright's disease.

In general, the per cents for both widowers and widows were particularly great for heart disease, etc., Bright's disease, nervous diseases, and respiratory troubles.

Occupations and Causes of Death.—Of the decedents aged 15 years and over for whom occupations were reported, totaling 18,231 in 1913, and 17,415 in 1912, the males numbered 17,045 and 16,391 while the females were only 1,186 and 1,024, respectively, the per cents male being 93.5 and 94.1 and female merely 6.5 and 5.9.

The per cents of deaths from typhoid fever were notably high among men in the following specific occupations: Engineers and surveyors, sailors and pilots, barbers and hairdressers, lumbermen and raftsmen, common laborers, draymen, stock raisers, hotel and boarding-house keepers, iron and steel workers, steam railroad employees, farmers, and merchants. The proportions were also high among women workers for nurses, clerks, and school teachers.

Tuberculosis caused relatively more deaths among both men and women workers than among men without occupation or women with only home duties. The per cents of deaths from tuberculosis were particularly high for the following occupations of men: Plumbers, clerks, waiters, tailors, musicians, barbers, hucksters, common laborers, butchers, iron and steel workers, engineers and surveyors, bakers, draymen, saloonkeepers, painters, printers, machinists, and steam railroad employees. The proportions of deaths from tuberculosis were also relatively high for clerks, teachers and servants among women wage earners. On the other hand, the proportions of deaths from tuberculosis were very low indeed for policemen, bankers, merchants, lawyers, physicians, boot and shoemakers, hostlers, lumbermen, farmers, soldiers, and stock raisers.

Miscellaneous violence, like tuberculosis, caused relatively more deaths among both men and women reporting gainful occupations than among those without wage-earning employments. The per cents of deaths from accidents were especially high among men in the following occupations: Lumbermen, railroad employees, hucksters, engineers and surveyors, draymen, common laborers, machinists, stationary engineers, iron and steel workers, sailors, plumbers, and miners. The proportions of deaths from violence on the other hand, were remarkably small among lawyers, physicians, clergymen, merchants, pharmacists, tailors, hotel and boarding-house keepers, boot and shoe makers, brick masons, clerks, cabinetmakers, printers, and musicians.

The statistics show varying relations between occupations and causes of deaths for persons in different occupations dying from cancer, diseases of the circulatory system, Bright's disease, diseases of the nervous, respiratory and digestive systems, and from suicide.

CAUSES OF DEATH.

The State.—Table 1, on pages 88–89, gives the number of deaths in California from certain principal causes, as well as the proportion per 1,000 total deaths and also the death rate per 100,000 estimated midyear population for each year in the five-year period just ended. The table also presents annual average proportions and rates for the five years, 1909 to 1913.

Table 1 shows that diseases of the circulatory system, heart disease, etc., constitute the principal group of causes of death in California. Diseases of the circulatory system caused 16.3 per cent of all deaths in 1913 and 17.4 per cent in 1912, against the annual average of 16.3 for 1909 to 1913. The death rates per 100,000 population for this class of diseases were 235.1 and 247.2 in 1913 and 1912, respectively, as compared with the annual average of 226.3 for the five years just ended.

TABLE 1.—Deaths from Certain Principal Causes, with Proportion per 1,000

Cause of death	Deaths					Annual average: 1909 to 1913
	1913	1912	1911	1910	1909	
ALL CAUSES	38,599	36,709	34,012	32,398	30,965	1,000.0
Typhoid fever	436	454	444	477	461	13.3
Malarial fever	77	101	121	113	112	3.1
Smallpox	15	16	9	1	6	0.3
Measles	154	134	84	199	119	4.0
Scarlet fever	85	34	81	69	69	2.0
Whooping cough	128	193	177	307	217	6.1
Diphtheria and croup	186	158	167	218	248	5.7
Influenza	220	146	125	73	82	3.7
Plague	2		1	1	1	*
Other epidemic diseases	180	186	169	204	108	4.9
Tuberculosis of lungs	4,536	4,316	4,353	4,161	4,061	124.5
Tuberculosis of other organs	866	812	761	711	612	21.7
Cancer	2,565	2,306	2,029	1,984	1,945	62.6
Other general diseases	1,733	1,621	1,538	1,357	1,177	42.8
Meningitis	405	308	381	369	398	10.9
Other diseases of nervous system	3,315	2,959	2,796	2,632	2,479	82.0
Diseases of circulatory system	6,281	6,376	5,516	5,067	4,966	163.2
Pneumonia and broncho-pneumonia	2,938	2,968	2,672	2,438	2,061	75.6
Other diseases of respiratory system	968	872	802	775	842	24.2
Diarrhea and enteritis, under 2 years	1,270	1,056	1,016	1,029	966	30.9
Diarrhea and enteritis, 2 years and over	369	359	307	233	270	9.1
Other diseases of digestive system	1,995	1,980	1,768	1,633	1,596	51.9
Bright's disease and nephritis	2,392	2,185	2,185	2,034	1,858	61.7
Childbirth	395	363	355	306	300	9.9
Diseases of early infancy	1,444	1,369	1,166	1,129	996	35.2
Suicide	837	803	752	706	702	22.0
Other violence	3,133	2,962	2,688	2,486	2,563	80.0
All other causes	1,774	1,682	1,553	1,616	1,748	48.7

Total Deaths and Death Rate per 100,000 Population, for California: 1909 to 1913.

Proportion per 1,000 total deaths					Death rate per 100,000 population					
1913	1912	1911	1910	1909	Annual average: 1909 to 1913	1913	1912	1911	1910	1909
						2,671,491	2,579,874	2,488,256	2,396,639	2,306,001
1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,886.0	1,444.8	1,422.9	1,866.9	1,351.8	1,343.7
11.3	12.4	13.0	14.7	14.9	18.3	16.3	17.6	17.8	19.9	20.0
2.0	2.7	3.5	3.5	3.6	4.3	2.9	3.9	4.9	4.7	4.9
0.4	0.4	0.3	*	0.2	0.4	0.6	0.6	0.4	0.1	0.3
4.0	3.6	2.5	6.2	3.8	5.6	5.8	5.2	3.4	8.3	5.2
2.2	0.9	2.4	2.1	2.2	2.7	3.2	1.3	3.3	2.9	3.0
3.3	5.3	5.2	9.5	7.0	8.3	4.8	7.5	7.1	12.8	9.4
4.8	4.3	4.9	6.7	8.0	7.9	7.0	6.1	6.7	9.1	10.8
5.7	4.0	3.7	2.3	2.6	5.1	8.2	5.6	5.0	3.1	3.6
*		*	*	*	0.1	0.1		0.1	0.1	0.1
4.7	5.1	5.0	6.3	3.5	6.8	6.7	7.2	6.8	8.5	4.7
117.5	117.6	128.0	128.4	181.0	172.3	169.8	167.3	174.9	173.6	176.1
22.4	22.1	22.4	21.9	19.8	30.1	32.4	31.5	30.6	29.7	23.5
66.4	62.8	59.6	61.2	62.8	83.8	96.0	89.4	81.5	82.8	84.3
44.9	44.2	45.2	41.9	38.0	59.4	64.9	62.8	61.8	56.6	51.0
10.5	8.4	11.2	11.4	12.8	15.0	15.1	11.9	15.3	15.4	17.3
86.9	80.6	82.2	81.2	80.0	113.7	124.1	114.7	112.4	109.8	107.5
162.7	173.7	162.2	157.0	160.3	226.3	235.1	247.2	221.7	212.2	215.3
76.1	80.9	78.6	75.3	67.2	104.9	110.0	115.1	107.4	101.7	90.2
22.5	23.7	23.6	23.9	27.2	33.5	32.5	33.8	32.2	32.3	36.5
32.9	28.8	29.9	31.8	31.2	42.8	47.5	40.9	40.8	42.9	41.9
9.6	9.8	9.0	8.7	8.7	12.7	13.8	13.9	12.3	11.8	11.7
51.7	53.9	51.9	50.4	51.5	72.0	74.7	76.8	71.0	68.1	69.2
62.0	59.5	64.2	62.8	60.0	85.5	89.5	84.7	87.8	84.9	80.6
10.2	9.9	10.4	9.5	9.7	13.8	14.8	14.1	14.3	12.8	13.0
37.4	37.3	34.3	34.9	32.2	48.9	54.0	53.1	46.9	47.1	43.3
21.7	21.9	22.1	21.8	22.7	30.5	31.3	31.1	30.2	29.5	30.4
81.2	80.4	79.0	76.7	82.7	110.9	117.3	114.4	107.9	103.7	111.1
46.0	45.8	45.7	49.9	56.4	67.4	66.4	65.2	62.4	67.4	75.8

*Less than one tenth of 1 per thousand.

Tuberculosis, however, is the leading single cause of death in California. Each year about one seventh of all deaths in the State were due to this disease, the per cent being 14.0 for both 1913 and 1912 against the average of 14.6 for 1909 to 1913. In 1913, as in 1912 also, 11.8 per cent of all deaths in California were from tuberculosis of the lungs and 2.2 per cent from tuberculosis of other organs, the averages for 1909 to 1913 being 12.4 and 2.2. The death rate per 100,000 population for all forms of tuberculosis was 202.2 in 1913 and 198.8 in 1912 against the average of 202.4 for the last five years.

Next after diseases of the circulatory system and various forms of tuberculosis taken together come diseases of the respiratory system, pneumonia, etc. Diseases of this class caused 9.9 per cent of all deaths in 1913 and 10.5 per cent in 1912 as compared with the average of 10.0 for 1909 to 1913. Pneumonia and broncho-pneumonia caused 7.6 per cent of all deaths in 1913 and 8.1 per cent in 1912, while other diseases of the respiratory system caused 2.3 and 2.4 per cent, respectively. The death rate per 100,000 population for all diseases of the respiratory system was 142.5 in 1913 and 148.9 in 1912 against the average of 138.4 for 1909 to 1913.

For meningitis and other diseases of the nervous system in 1913 and 1912, respectively, the per cents of all deaths were 9.6 and 8.9 against the five-year average of 9.3, while the death rates per 100,000 population were 139.2 and 126.6 against the average of 128.7. Meningitis alone caused 1.1 per cent of all deaths in 1913 and 0.8 per cent in 1912.

Diseases of the digestive system (diarrhea and enteritis, etc.) caused 9.4 per cent of all deaths in 1913 and 9.3 per cent in 1912 against the average of 9.2, and showed death rates of 136.0 and 131.6 in 1913 and 1912 as compared with the average of 127.5 for 1909 to 1913. The deaths from diarrhea and enteritis among children under 2 years of age were 3.3 per cent of the total deaths at all ages in 1913 and 2.9 per cent in 1912.

Violence other than suicide caused 8.1 per cent of all deaths in 1913 and 8.0 per cent in 1912 against the average of 8.0, while suicides alone caused 2.2 per cent of all deaths each year as well as for the whole five-year period.

Cancers of various kinds caused 6.6 per cent of all deaths in 1913 and 6.3 per cent in 1912 as compared with the average of 6.3, while Bright's disease and nephritis caused 6.2 per cent of all deaths in 1913 and 6.0 per cent in 1912 against the average of 6.2.

Of the epidemic diseases, typhoid fever was by far the most fatal each year, the deaths therefrom in 1913 and 1912 numbering 436 and 454 and the per cents being 1.1 and 1.2 against the average of 1.3 for 1909 to 1913. In 1913 and 1912, respectively, the deaths from whooping-cough numbered 128 and 193 with per cents of 0.3 and 0.5 against the five-year average of 0.6; the deaths from diphtheria and croup totaled 186 and 158 with per cents of 0.5 and 0.4 against the average of 0.6; and the deaths from measles numbered 154 and 134 with a per cent of 0.4

each year against the average of 0.4. Deaths reported from influenza numbered 220 in 1913 and 146 in 1912 (or considerably more for the last two than for earlier years), the per cents being 0.6 and 0.4, respectively, as compared with the average of only 0.4 for 1909 to 1913.

Fewer deaths were reported in 1913 than in 1912 both for typhoid fever and whooping-cough, though somewhat more were reported in 1913 than in 1912 for diphtheria and croup as well as measles.

For typhoid fever, in fact, the death total decreased quite steadily in general throughout the whole eight years last past as follows: 657 (1906), 558, 540, 461, 477, 444, 454, and 436 (1913). The per cent of total deaths from typhoid fever was only 1.1 in 1913 and 1.2 in 1912 against the annual average of 1.3 for 1909 to 1913. Similarly, the death rate per 100,000 population for typhoid fever was merely 16.3 in 1913 and 17.6 in 1912 as compared with 18.3 for the five-year period just ended.

Deaths from other epidemic diseases occurred as follows in 1913 and 1912, respectively: Malarial fever, 77 and 101; scarlet fever, 85 and 34; and smallpox, 15 and 16. Two deaths from plague were reported for 1913, but none for 1912.

Main Geographic Divisions.—Table 2, which follows, gives for the three main geographic divisions in 1913 and 1912 the number of deaths from certain principal causes, as well as the proportion from each cause per 1,000 total deaths. The death rates per 100,000 population are not shown for geographic divisions, because of the difficulty of estimating population for different localities with sufficiently equal accuracy to justify the comparison of detailed death rates for individual causes of death.

Table 2 shows that the proportions per 1,000 total deaths for typhoid fever were particularly high for Central California each year, 12.9 and 13.9 in 1913 and 1912 against State averages of 11.3 and 12.4. For 1913 alone, moreover, the proportion for Northern California was slightly above the State average, 12.0 against 11.3.

The proportions for whooping-cough were above the State averages of 3.3 in 1913 and 5.3 in 1912 for Southern California both years, 5.1 and 6.6.

The proportions for diphtheria and croup also exceeded the State averages of 4.8 and 5.3 for Southern California both years, 5.1 and 4.7, as well as for Central California in less degree, 4.9 and 4.5.

The proportions for measles surpassed the State averages of 4.0 and 3.6 only for Southern California in 1913 alone, 6.8, and for Central California in 1912 alone, 5.7.

For Northern California the proportions are particularly high for deaths from violence other than suicide, being no less than 108.5 and 102.3 for this main division against 81.2 and 80.4 for the whole State, as well as for diseases of the nervous system other than meningitis, being 92.8 and 89.4 for this main division against 85.9 and 80.6 for the State in 1913 and 1912, respectively.

Central California excels in the proportions for diseases of the circulatory system (heart disease, etc.), 174.1 and 182.0 against State aver-

ages of 162.7 and 173.7; for cancer, 71.4 and 65.9 against 66.4 and 62.8; and for pneumonia and broncho-pneumonia, 81.8 and 86.3 against 76.1 and 80.9.

Southern California leads decidedly in the proportions for tuberculosis. The proportions per 1,000 total deaths for tuberculosis of the lungs were no less than 147.9 and 150.2 for this main division against only 117.5 and 117.6 for the entire State, and for tuberculosis of other organs were 21.9 and 24.6 for this division against 22.4 and 22.1 for the State.

Minor Geographic Divisions.—Table 3 on the following pages presents similar figures for the eight minor geographic divisions.

TABLE 2.—Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Main Geographic Divisions:* 1913 and 1912.

Cause of death	The State		Northern California		Central California		Southern California	
	1913	1912	1913	1912	1913	1912	1913	1912
DEATHS.								
ALL CAUSES	38,599	36,709	4,267	4,029	20,302	19,653	14,030	13,027
Typhoid fever	436	454	51	46	263	273	122	135
Malarial fever	77	101	22	30	50	58	5	13
Smallpox	15	16			5	2	10	14
Measles	154	134	10	13	49	112	95	9
Scarlet fever	85	34	5	6	61	11	19	17
Whooping-cough	128	193	13	9	43	96	72	83
Diphtheria and croup	183	158	15	8	99	89	72	61
Influenza	220	146	21	21	97	63	102	62
Plague	2				2			
Other epidemic diseases	180	186	36	30	81	89	63	67
Tuberculosis of lungs	4,536	4,316	409	387	2,052	1,972	2,075	1,957
Tuberculosis of other organs	866	812	56	75	503	416	307	321
Cancer	2,565	2,306	226	206	1,449	1,295	890	805
Other general diseases	1,733	1,621	199	207	965	884	599	530
Meningitis	405	308	40	28	175	166	190	114
Other diseases of nervous system	3,315	2,959	396	360	1,687	1,468	1,232	1,131
Diseases of circulatory system	6,281	6,376	741	733	3,534	3,576	2,006	2,037
Pneumonia and broncho-pneumonia	2,938	2,968	324	314	1,661	1,698	953	956
Other diseases of respiratory system	868	872	91	78	449	483	323	311
Diarrhea and enteritis, under 2 years	1,270	1,056	84	72	661	612	525	372
Diarrhea and enteritis, 2 years and over	369	359	56	40	175	177	138	142
Other diseases of digestive system	1,995	1,960	230	192	1,137	1,163	628	625
Bright's disease and nephritis	2,392	2,185	261	216	1,196	1,096	935	881
Childbirth	395	363	42	35	216	198	137	130
Diseases of early infancy	1,444	1,369	142	132	767	717	535	520
Suicide	837	803	85	97	500	471	252	233
Other violence	3,133	2,952	463	412	1,595	1,607	1,075	985
All other causes	1,774	1,682	249	252	860	867	665	563
PROPORTION PER 1,000 TOTAL DEATHS.								
ALL CAUSES	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Typhoid fever	11.3	12.4	12.0	11.4	12.9	13.9	8.7	10.4
Malarial fever	2.0	2.7	5.2	7.4	2.5	2.9	0.4	1.0
Smallpox	0.4	0.4			0.2	0.1	0.7	1.1
Measles	4.0	3.6	2.3	3.2	2.4	5.7	6.8	0.7
Scarlet fever	2.2	0.9	1.2	1.5	3.0	0.6	1.4	1.3
Whooping-cough	3.3	5.3	3.0	2.2	2.1	5.0	5.1	6.6
Diphtheria and croup	4.8	4.3	3.5	2.0	4.9	4.5	5.1	4.7
Influenza	5.7	4.0	4.9	5.2	4.8	3.2	7.3	4.8
Plague	†				0.1			
Other epidemic diseases	4.7	5.1	8.4	7.4	4.0	4.5	4.5	5.1
Tuberculosis of lungs	117.5	117.6	95.9	96.1	101.1	100.3	147.9	150.2
Tuberculosis of other organs	22.4	22.1	13.1	18.6	24.8	21.2	21.9	24.6
Cancer	66.4	62.8	53.0	51.1	71.4	65.9	63.4	61.8
Other general diseases	44.9	44.2	46.6	51.4	46.0	45.0	42.7	40.7
Meningitis	10.5	8.4	9.4	6.9	8.6	8.4	13.5	8.7
Other diseases of nervous system	85.9	80.6	92.8	89.4	83.1	74.7	87.8	86.8
Diseases of circulatory system	162.7	173.7	173.7	189.4	174.1	182.0	143.0	156.4
Pneumonia and broncho-pneumonia	76.1	80.9	75.9	77.9	81.8	86.3	67.9	73.4
Other diseases of respiratory system	22.5	23.7	21.3	19.4	22.1	24.6	23.4	23.9
Diarrhea and enteritis, under 2 years	32.9	28.8	19.7	17.9	32.6	31.1	37.4	28.6
Diarrhea and enteritis, 2 years and over	9.6	9.8	13.1	9.9	8.6	9.0	9.8	10.9
Other diseases of digestive system	51.7	53.9	53.9	47.7	56.0	59.2	44.8	48.0
Bright's disease and nephritis	62.0	59.5	61.2	53.6	58.9	55.4	66.6	67.6
Childbirth	10.2	9.9	9.8	8.7	10.6	10.1	9.8	10.0
Diseases of early infancy	37.4	37.3	33.3	32.8	37.8	35.5	38.1	39.9
Suicide	21.7	21.9	19.9	24.1	24.6	24.0	18.0	18.0
Other violence	81.2	80.4	108.5	102.3	78.6	81.8	76.6	71.6
All other causes	46.0	45.8	58.4	62.5	42.4	44.1	47.4	43.2

*For list of counties included in geographic divisions, see page 26.
†Less than one tenth of 1 per thousand.

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TABLE 3.—Deaths from Certain Principal Causes, with Proportion

Cause of death	Deaths						
	The State	Northern California		Central California			
		Coast counties	Interior counties	San Francisco	Other bay counties	Coast counties	Interior counties
1913.							
ALL CAUSES	38,599	2,187	2,080	7,002	4,602	2,431	6,267
Typhoid fever	496	21	30	71	49	23	120
Malarial fever	77	2	20	6	5	1	38
Smallpox	15				4		1
Measles	154		10	8	4	8	29
Scarlet fever	85	1	4	16	4		41
Whooping-cough	128	7	6	17	4	8	14
Diphtheria and croup	193	6	9	29	31	5	34
Influenza	220	9	12	11	14	21	51
Plague	2				1	1	
Other epidemic diseases	180	18	18	25	10	10	36
Tuberculosis of lungs	4,536	221	188	685	421	247	699
Tuberculosis of other organs	866	34	22	195	95	64	149
Cancer	2,565	123	98	573	365	164	347
Other general diseases	1,733	89	110	355	211	96	273
Meningitis	405	25	15	56	35	16	68
Other diseases of nervous system	3,315	230	166	484	411	296	496
Diseases of circulatory system	6,251	419	322	1,443	850	468	773
Pneumonia and broncho-pneumonia	2,988	170	154	599	414	185	483
Other diseases of respiratory system	868	52	39	153	108	66	123
Diarrhea and enteritis, under 2 years	1,270	37	47	143	152	81	285
Diarrhea and enteritis, 2 years and over	369	26	30	46	29	33	67
Other diseases of digestive system	1,995	125	105	436	230	108	363
Bright's disease and nephritis	2,892	133	128	426	285	136	349
Childbirth	395	17	25	74	44	23	75
Diseases of early infancy	1,444	62	80	195	189	75	308
Suicide	837	38	47	220	125	38	117
Other violence	3,133	204	259	454	343	156	639
All other causes	1,774	113	136	282	166	123	289
1912.							
ALL CAUSES	36,709	2,155	1,874	6,766	4,470	2,332	6,065
Typhoid fever	454	26	20	60	47	23	143
Malarial fever	101	2	28	12	3	2	41
Smallpox	16				1		
Measles	134	6	7	50	11	20	31
Scarlet fever	34	4	2	1	1	2	7
Whooping-cough	193	2	7	25	27	9	37
Diphtheria and croup	158	3	5	31	27	3	28
Influenza	146	5	16	8	6	10	39
Other epidemic diseases	183	20	10	22	13	9	45
Tuberculosis of lungs	4,316	221	166	678	455	210	629
Tuberculosis of other organs	812	40	35	174	84	54	104
Cancer	2,306	117	89	500	329	145	321
Other general diseases	1,621	98	109	335	187	100	282
Meningitis	308	14	14	52	43	13	58
Other diseases of nervous system	2,959	248	112	448	378	231	411
Diseases of circulatory system	6,376	421	342	1,384	845	461	883
Pneumonia and broncho-pneumonia	2,968	168	146	543	413	198	544
Other diseases of respiratory system	872	37	41	174	104	68	137
Diarrhea and enteritis, under 2 years	1,056	30	42	192	121	62	237
Diarrhea and enteritis, 2 years and over	359	18	22	37	39	21	80
Other diseases of digestive system	1,980	104	88	456	244	127	336
Bright's disease and nephritis	2,185	129	87	371	240	141	336
Childbirth	363	13	22	50	48	23	77
Diseases of early infancy	1,369	65	67	236	192	70	219
Suicide	803	45	52	203	108	45	115
Other violence	2,952	203	209	434	338	163	672
All other causes	1,682	116	136	289	166	122	290

per 1,000 Total Deaths, for Minor Geographic Divisions: 1913 and 1912.

Southern California		The State	Northern California		Central California				Southern California	
Los Angeles	Other counties		Coast counties	Interior counties	San Francisco	Other bay counties	Coast counties	Interior counties	Los Angeles	Other counties
9,705	4,325	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
67	55	11.3	9.6	14.4	10.1	10.6	9.5	19.2	6.9	12.7
5		2.0	0.9	9.6	0.9	1.1	0.4	6.1	0.5	
	10	0.4				0.9		0.2		2.3
73	22	4.0		4.8	1.1	0.9	3.3	4.6	7.5	5.1
18	1	2.2	0.5	1.9	2.3	0.9		6.5	1.9	0.2
47	25	3.3	3.2	2.0	2.4	0.9	3.3	2.2	4.8	5.8
57	15	4.8	2.7	4.3	4.1	6.7	2.1	5.4	5.9	3.5
71	31	5.7	4.1	5.8	1.6	3.0	8.6	8.1	7.3	7.2
		*				0.2	0.4			
44	19	4.7	8.2	8.7	8.6	2.2	4.1	5.7	4.5	4.4
1,446	629	117.5	101.0	90.4	97.8	91.5	101.6	111.5	149.0	145.4
190	117	22.4	15.5	10.6	27.9	20.6	26.3	23.8	19.6	27.0
647	243	66.4	58.5	47.1	81.8	79.3	67.5	55.4	66.7	56.2
427	172	44.9	40.7	52.9	50.7	45.8	39.5	43.6	44.0	39.8
146	44	10.5	11.4	7.2	8.0	7.6	6.6	10.9	15.0	10.2
808	424	85.9	105.2	79.8	69.1	89.3	121.8	79.1	83.8	98.0
1,472	594	162.7	191.6	154.8	206.1	184.7	192.5	123.3	151.7	123.5
674	279	76.1	77.7	74.0	85.6	89.9	67.9	77.1	69.4	64.5
223	105	22.5	23.8	18.8	21.9	23.5	26.7	19.8	23.0	24.3
301	224	32.9	16.9	22.6	20.4	33.0	33.3	45.5	31.0	51.8
82	56	9.8	11.9	14.4	6.6	6.3	13.6	10.7	8.4	12.9
452	176	51.7	57.2	50.5	62.3	50.0	44.4	57.9	46.6	40.7
688	247	62.0	60.8	61.5	60.8	61.9	55.9	55.7	70.9	57.1
99	38	10.2	7.8	12.0	10.6	9.6	9.5	12.0	10.2	8.8
357	178	37.4	28.4	38.5	27.8	41.1	30.8	49.1	36.8	41.1
176	76	21.7	17.4	22.6	31.4	27.2	15.6	18.7	18.1	17.6
655	420	81.2	93.3	124.5	64.8	75.2	64.2	102.0	67.5	97.1
480	185	46.0	51.7	65.4	40.3	36.1	50.6	46.1	49.5	42.8
8,890	4,137	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
76	59	12.4	12.1	10.7	8.9	10.5	9.8	23.5	8.5	14.3
7	6	2.7	0.9	14.9	1.8	0.7	0.9	6.7	0.8	1.4
13	1	0.4			0.1	0.2			1.5	0.2
4	5	3.6	2.8	3.7	7.4	2.5	8.6	5.1	0.4	1.2
13	4	0.9	1.8	1.1	0.1	0.2	0.9	1.2	1.5	1.0
60	26	5.3	0.9	3.7	3.7	6.1	3.9	6.1	6.7	6.3
40	21	4.3	1.4	2.7	4.6	6.0	1.3	4.6	4.5	5.1
44	18	4.0	2.3	8.5	1.2	1.3	4.3	6.4	4.9	4.3
49	18	5.1	9.3	5.3	3.2	2.9	3.9	7.4	5.5	4.3
1,344	613	117.6	102.5	88.6	100.2	101.8	90.0	103.4	151.2	148.2
233	88	22.1	18.6	18.7	25.7	18.8	23.2	17.1	26.2	21.3
597	208	62.8	54.3	47.5	73.9	73.6	62.2	52.8	67.2	50.3
374	156	44.2	45.5	58.2	49.5	41.8	42.9	43.1	42.1	37.7
67	47	8.4	6.5	7.5	7.7	9.6	5.6	9.5	7.5	11.4
736	395	80.6	115.1	59.8	66.2	84.6	99.0	67.5	82.8	95.5
1,428	609	173.7	195.4	182.5	204.6	189.0	197.7	145.6	160.6	147.2
679	277	80.9	77.9	77.9	80.3	92.4	84.9	89.4	76.4	66.9
209	102	23.7	17.2	21.9	25.7	23.3	29.2	22.5	23.5	24.6
213	159	28.8	13.9	22.4	23.4	27.1	26.6	38.9	24.0	38.4
83	59	9.8	8.3	11.7	5.5	8.7	9.0	13.1	9.3	14.3
427	198	53.9	48.3	47.0	67.4	54.6	54.4	55.2	48.0	47.9
631	250	59.5	59.9	46.4	54.8	53.7	60.4	55.2	71.0	60.4
94	36	9.9	6.0	11.7	7.4	10.7	9.8	12.7	10.6	8.7
336	184	37.3	30.2	35.8	34.9	43.0	30.0	36.0	37.8	44.5
173	62	21.9	20.9	27.7	30.0	24.2	19.3	18.9	19.5	15.0
569	364	80.4	94.2	111.5	64.1	75.6	69.9	110.4	64.0	88.0
391	172	45.8	53.8	72.6	42.7	37.1	52.3	47.7	44.0	41.6

From the proportions per 1,000 total deaths shown for minor geographic divisions it appears that the high proportions for typhoid fever noted for Central California each year and for Northern California in 1913 were practically confined to the interior counties. The proportions for typhoid fever were relatively high each year for the interior counties of both Central and Northern California and for the counties of Southern California other than Los Angeles, as well as for the coast counties of Northern California in 1912 alone. As compared with State averages of 11.3 and 12.4 in 1913 and 1912, respectively, the proportions per 1,000 total deaths were no less than 19.2 and 23.5 for the interior counties of Central California; 14.4 and 10.7 for the interior counties of Northern California; 12.7 and 14.3 for Southern California except Los Angeles, and 12.1 for the coast counties of Northern California in 1912 alone.

The proportions of whooping-cough were above the State averages of 3.3 and 5.3 both years for Los Angeles, 4.8 and 6.7, and for the other counties of Southern California, 5.8 and 6.3, as well as in 1912 alone for the other bay counties and the interior counties of Central California, 6.1 in each case.

The proportion for diphtheria and croup was above the State average of 4.8 in 1913 for the bay counties other than San Francisco, 6.7; for the interior counties of Central California, 5.4; and for Los Angeles, 5.9. The proportion was above the average of 4.3 for 1912 for San Francisco, 4.6; the other bay counties, 6.0; the interior counties of Central California, 4.6; Los Angeles, 4.5; and the other counties of Southern California, 5.1.

The proportion for measles was above the general average of 4.0 in 1913 for the interior counties of Northern California, 4.8; the interior counties of Central California, 4.6; Los Angeles, 7.5; and the other counties of Southern California, 5.1. The proportion was above the average of 3.6 in 1912 for the interior counties of Northern California, 3.7; San Francisco, 7.4; the coast counties of Central California, 8.6; and the interior counties of Central California, 5.1.

The coast counties of Northern California have very high proportions for diseases of the nervous system other than meningitis, 105.2 and 115.1 in 1913 and 1912 against State averages of only 85.9 and 80.6. This is accounted for by the fact that many of the deaths reported for this geographic division occurred at the Mendocino and Napa State Hospitals. The proportions for diseases of the nervous system are also quite high for the coast counties of Central California, 121.8 and 99.0, and for the counties south of Tehachapi except Los Angeles, 98.0 and 95.5, the former division including the Agnews State Hospital and the latter the Southern California State Hospital.

The interior counties of Northern California show proportions that are very high indeed, 124.5 and 111.5 against State averages of only 81.2 and 80.4, for miscellaneous deaths from violence, as drowning, railroad injuries, other accidents, etc.

The proportions for diseases of the circulatory system (162.7 and 173.7 for the State in 1913 and 1912) are particularly high for San Francisco (206.1 and 204.6), for the other bay counties (184.7 and 189.0), for the adjoining coast counties of Central California (192.5 and 197.7), and for the coast counties of Northern California (191.6 and 195.4).

The proportions for pneumonia and broncho-pneumonia (76.1 for the State in 1913 and 80.9 in 1912) are especially high for San Francisco (85.6 and 80.3) and the other bay counties (89.9 and 92.4), as well as for the interior counties of Central California (77.1 and 89.4).

The proportions of total deaths at all ages for diarrhea and enteritis among children under 2 years of age, 32.9 in 1913 and 28.8 in 1912 for the State, were notably high for the interior counties of Central California, 45.5 and 38.9, and for Southern California outside Los Angeles, 51.8 and 38.4.

In San Francisco the proportions per 1,000 total deaths for cancer were no less than 81.8 in 1913 and 73.9 in 1912 against State averages of 66.4 and 62.8. Similarly, the proportions for suicide were as great as 31.4 and 30.0 for San Francisco as compared with 21.7 and 21.9 for the State as a whole.

The proportions for tuberculosis of the lungs, 117.5 in 1913 and 117.6 in 1912 for the State, were no less than 149.0 and 151.2 for Los Angeles and as great as 145.4 and 148.2 for the other counties south of Tehachapi. Similarly, against State averages of 22.4 and 22.1 for tuberculosis of other organs, the proportions per 1,000 total deaths were 19.6 in 1913 and 26.2 in 1912 for Los Angeles and 27.0 and 21.3, respectively, for the rest of Southern California.

Urban and Rural Districts.—The table which follows has been prepared to bring out the contrast between mortality conditions in urban and rural districts, figures like those in preceding tables being given here for the metropolitan area, comprising San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), as compared with the rural counties of Northern and Central California:

TABLE 4.—Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Metropolitan Area and Rural Counties of Northern and Central California: 1913 and 1912.

Cause of death	Northern and Central California		Metropolitan area		Rural counties	
	1913	1912	1913	1912	1913	1912
DEATHS.						
ALL CAUSES	24,569	23,682	11,604	11,286	12,965	12,446
Typhoid fever	314	319	120	107	194	212
Malarial fever	72	88	11	15	61	73
Smallpox	5	2	4	2	1	1
Measles	59	125	12	61	47	64
Scarlet fever	66	17	20	2	46	15
Whooping-cough	56	107	21	52	35	55
Diphtheria and croup.....	114	97	60	58	54	39
Influenza	118	84	25	14	98	70
Plague	2		1		1	
Other epidemic diseases.....	117	119	35	85	82	84
Tuberculosis of lungs.....	2,461	2,859	1,106	1,133	1,355	1,226
Tuberculosis of other organs.....	569	491	290	258	269	233
Cancer	1,675	1,501	968	829	737	672
Other general diseases.....	1,134	1,061	566	522	568	569
Meningitis	215	194	91	95	124	99
Other diseases of nervous system.....	2,083	1,823	895	825	1,188	1,002
Diseases of circulatory system.....	4,275	4,339	2,293	2,229	1,982	2,110
Pneumonia and broncho-pneumonia.....	1,985	2,012	1,013	956	972	1,056
Other diseases of respiratory system.....	540	561	261	278	279	283
Diarrhea and enteritis, under 2 years.....	745	684	295	313	450	371
Diarrhea and enteritis, 2 years and over.....	231	217	75	76	156	141
Other diseases of digestive system.....	1,367	1,335	666	700	701	655
Bright's disease and nephritis.....	1,457	1,304	711	611	746	693
Childbirth	258	233	118	96	140	135
Diseases of early infancy.....	909	849	384	423	525	421
Suicide	585	568	345	311	240	257
Other violence	2,068	2,019	800	772	1,258	1,247
All other causes.....	1,109	1,119	443	455	661	564
PROPORTION PER 1,000 TOTAL DEATHS.						
ALL CAUSES	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Typhoid fever	12.8	13.5	10.3	9.5	15.0	17.0
Malarial fever	2.9	3.7	1.0	1.3	4.7	5.9
Smallpox	0.2	0.1	0.4	0.2	0.1	
Measles	2.4	5.3	1.0	5.4	3.6	5.2
Scarlet fever	2.7	0.7	1.7	0.2	3.5	1.2
Whooping-cough	2.3	4.5	1.8	4.6	2.7	4.4
Diphtheria and croup.....	4.6	4.1	5.2	5.2	4.2	3.1
Influenza	4.8	3.5	2.2	1.2	7.2	5.6
Plague	0.1		0.1		0.1	
Other epidemic diseases.....	4.8	5.0	3.0	3.1	6.3	6.8
Tuberculosis of lungs.....	100.2	99.6	95.3	100.8	104.5	98.5
Tuberculosis of other organs.....	22.7	20.7	25.0	23.0	20.8	18.7
Cancer	68.2	63.4	80.8	73.8	56.8	54.0
Other general diseases.....	43.2	46.1	48.3	46.5	43.8	45.7
Meningitis	8.7	8.2	7.8	8.4	9.6	8.0
Other diseases of nervous system.....	84.8	77.2	77.1	78.5	91.6	80.5
Diseases of circulatory system.....	174.0	183.2	197.6	198.4	152.9	159.5
Pneumonia and broncho-pneumonia.....	80.8	85.0	87.3	85.1	75.0	84.9
Other diseases of respiratory system.....	22.0	23.7	22.5	24.7	21.5	22.8
Diarrhea and enteritis, under 2 years.....	30.3	28.9	25.4	27.9	34.7	29.8
Diarrhea and enteritis, 2 years and over.....	9.4	9.2	6.5	6.8	12.0	11.3
Other diseases of digestive system.....	55.6	57.2	57.4	62.3	54.1	52.6
Bright's disease and nephritis.....	59.3	55.1	61.3	54.4	57.5	55.7
Childbirth	10.5	9.8	10.2	8.7	10.8	10.9
Diseases of early infancy.....	37.0	35.8	33.1	38.1	40.5	33.8
Suicide	23.8	24.0	29.7	27.7	18.5	20.7
Other violence	83.8	85.3	68.9	68.7	97.0	100.0
All other causes.....	45.1	47.2	38.6	40.5	51.0	53.4

There were not far from the same number of deaths each year in the metropolitan area as in all the other counties north of Tehachapi, the totals being respectively, 11,604 and 12,965 in 1913, and 11,236 and 12,446 in 1912. However, there are marked differences between the whole urban area and the rural districts in the distribution of deaths by main causes.

The proportion per 1,000 total deaths for typhoid fever was only 10.3 in 1913 and 9.5 in 1912 for the metropolitan area as compared with 15.0 and 17.0 for the rural counties. Similarly, the proportions for malarial fever were only 1.0 and 1.3 for the urban territory against 4.7 and 5.9 for the country districts. The proportions for scarlet fever were likewise only 1.7 and 0.2 for the urban territory as compared with 3.5 and 1.2 for the rural sections.

The proportions for whooping-cough were 1.8 and 4.6 for the metropolitan area against 2.7 and 4.4 for the rural counties, and the proportions for measles were 1.0 and 5.4 for the former against 3.6 and 5.2 for the latter. The proportions for both whooping-cough and measles were much less for the metropolitan area than for the rural counties in 1913, though about the same for each population group in 1912.

However, the proportion for diphtheria and croup was greater in both 1913 and 1912 for the urban territory, 5.2 each year, than for the rural territory, 4.2 and 3.1.

The proportion of deaths from diseases of the circulatory system (heart disease, etc.) is very much higher for the urban territory than for the country districts, the proportions per 1,000 total deaths for the former in 1913 and 1912 being as great as 197.6 and 198.4 against only 152.9 and 169.5 for the latter. The proportions for Bright's disease and nephritis, which often occur with heart disease, were also generally higher for the metropolitan area (61.3 and 54.4) than for the rural counties (57.5 and 55.7).

Other important cases in which the proportions per 1,000 total deaths were higher in both 1913 and 1912 for the urban territory than for the country districts are as follows: Cancer, 80.8 and 73.8 against 56.8 and 54.0; pneumonia and broncho-pneumonia, 87.3 and 85.1 against 75.0 and 84.9; diseases of the digestive system other than diarrhea and enteritis, 57.4 and 62.3 against 54.1 and 52.6; and suicide, 29.7 and 27.7 against 18.5 and 20.7.

On the other hand, the proportions were higher in both 1913 and 1912 for the rural counties than for the metropolitan area in the following notable instances: Diseases of the nervous system other than meningitis, 91.6 and 80.5 as compared with 77.1 and 73.5; diarrhea and enteritis (under 2 years), 34.7 and 29.8 as compared with 25.4 and 27.9; violence other than suicide (*i. e.*, sundry accidents), 97.0 and 100.0 as compared with 68.9 and 68.7; and miscellaneous causes (including "old age"), 51.0 and 53.4 as compared with 38.6 and 40.5.

In short, there are relatively more deaths in the metropolitan area than in the rural counties north of Tehachapi from heart disease, Bright's disease, cancer, pneumonia, digestive ailments (except diarrhea), and suicide, as well as from diphtheria and croup. However, there is a relatively greater mortality in country districts than in

the urban territory from diseases of the nervous system, infantile diarrhea, accidental violence, and "old age," as well as from typhoid fever, malarial fever, and scarlet fever, besides (generally) whooping-cough and measles.

Cities and Rest of State.—A further contrast between mortality conditions in city and country districts is available for 1913 and 1912 by comparing deaths in chartered cities as a class with deaths in all the rest of the State. There were thirty-two freeholders' charter cities in 1913 and thirty-one in 1912, the additional city being San Rafael. Table 5 on the following page shows for 1913 and 1912 the number of deaths from certain principal causes, as well as the proportion from each cause per 1,000 total deaths, for chartered cities as a class and for the rest of the State as a whole.

TABLE 5.—Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Freeholders' Charter Cities and Rest of State: 1913 and 1912.

Cause of death	California		Freeholders' charter cities		Rest of state	
	1913	1912	1913	1912	1913	1912
DEATHS.						
ALL CAUSES	38,599	36,709	23,519	22,322	15,080	14,387
Typhoid fever	436	454	262	242	174	212
Malarial fever	77	101	24	30	53	71
Smallpox	15	16	5	14	10	2
Measles	154	134	78	88	76	46
Scarlet fever	85	34	39	13	46	21
Whooping-cough	128	193	71	117	57	76
Diphtheria and croup	183	158	128	98	58	60
Influenza	220	146	103	61	117	85
Plague	2				2	
Other epidemic diseases	180	186	103	93	74	93
Tuberculosis of lungs	4,536	4,316	2,663	2,554	1,873	1,762
Tuberculosis of other organs	866	812	575	544	291	268
Cancer	2,565	2,303	1,772	1,590	793	716
Other general diseases	1,733	1,621	1,114	1,006	619	613
Meningitis	405	308	239	192	136	116
Other diseases of nervous system	3,315	2,959	1,953	1,715	1,359	1,244
Diseases of circulatory system	6,281	6,376	4,081	4,000	2,200	2,376
Pneumonia and broncho-pneumonia	2,938	2,938	1,832	1,819	1,106	1,149
Other diseases of respiratory system	868	872	488	539	380	333
Diarrhea and enteritis, under 2 years	1,270	1,056	670	588	600	438
Diarrhea and enteritis, 2 years and over	369	359	191	199	178	160
Other diseases of digestive system	1,995	1,980	1,307	1,332	688	648
Bright's disease and nephritis	2,392	2,186	1,510	1,329	882	856
Childbirth	395	363	253	228	142	135
Diseases of early infancy	1,444	1,339	853	858	588	511
Suicide	837	803	548	543	289	260
Other violence	3,133	2,952	1,598	1,537	1,535	1,415
All other causes	1,774	1,682	1,020	991	754	691
PROPORTION PER 1,000 TOTAL DEATHS.						
ALL CAUSES	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Typhoid fever	11.3	12.4	11.1	10.8	11.5	14.7
Malarial fever	2.0	2.7	1.0	1.4	3.5	4.9
Smallpox	0.4	0.4	0.2	0.6	0.7	0.1
Measles	4.0	3.6	3.3	3.9	5.0	3.2
Scarlet fever	2.2	0.9	1.7	0.6	3.1	1.5
Whooping-cough	3.3	5.3	3.0	5.2	3.8	5.3
Diphtheria and croup	4.8	4.3	5.4	4.4	3.8	4.2
Influenza	5.7	4.0	4.4	2.7	7.8	5.9
Plague	*				0.1	
Other epidemic diseases	4.7	5.1	4.5	4.2	4.9	6.5
Tuberculosis of lungs	117.5	117.6	113.2	114.4	124.2	122.5
Tuberculosis of other organs	22.4	22.1	24.5	24.4	19.3	18.6
Cancer	66.4	62.8	75.3	71.2	52.6	49.8
Other general diseases	44.9	44.2	47.4	45.2	41.1	42.6
Meningitis	10.5	8.4	11.4	8.6	9.0	8.1
Other diseases of nervous system	85.9	80.6	83.2	76.8	90.1	83.5
Diseases of circulatory system	162.7	173.7	173.5	179.2	145.9	165.1
Pneumonia and broncho-pneumonia	76.1	80.9	77.9	81.5	73.3	79.9
Other diseases of respiratory system	22.5	23.7	20.8	24.2	25.2	23.1
Diarrhea and enteritis, under 2 years	32.9	28.8	28.5	26.4	39.8	32.5
Diarrhea and enteritis, 2 years and over	9.6	9.8	8.1	8.9	11.8	11.1
Other diseases of digestive system	51.7	53.9	55.6	59.7	45.6	45.0
Bright's disease and nephritis	62.0	59.5	64.2	59.5	58.5	59.5
Childbirth	10.2	9.9	10.8	10.2	9.4	9.4
Diseases of early infancy	37.4	37.3	36.4	38.4	39.0	35.5
Suicide	21.7	21.9	23.3	24.3	19.2	18.1
Other violence	81.2	80.4	67.9	68.9	101.8	98.4
All other causes	46.0	45.8	43.4	44.4	50.0	48.0

*Less than one tenth of 1 per thousand.

Of the 38,599 deaths in California in 1913, altogether 23,519, or 60.9 per cent, occurred in the thirty-two freeholders' charter cities and 15,080, or 39.1 per cent, occurred in all the rest of the State. Of the 36,709 deaths in 1912, the number within the thirty-one chartered cities was 22,322, or 60.8 per cent, and the number outside these cities was 14,387, or 39.2 per cent. Each year about three fifths of the deaths in California occurred within chartered cities and about two fifths outside them.

The proportion per 1,000 total deaths for typhoid fever was only 11.1 in 1913 and 10.8 in 1912 for chartered cities as a class against 11.5 and 14.7, respectively, for all the rest of the State as a whole. The proportions were also less for chartered cities than for the rest of California for malarial fever, 1.0 and 1.4 against 3.5 and 4.9; for scarlet fever, 1.7 and 0.6 against 3.1 and 1.5; for whooping-cough, 3.0 and 5.2 against 3.8 and 5.3; and (generally) for measles, 3.3 and 3.9 against 5.0 and 3.2.

Relatively more deaths occur within cities than outside them, however, from diseases of the circulatory system (heart disease, etc.). The proportions per 1,000 total deaths in 1913 and 1912, respectively, were 173.5 and 179.2 for chartered cities as compared with 145.9 and 165.1 for the rest of the State. For Bright's disease and nephritis, often reported with heart disease, the proportions were likewise generally higher within chartered cities, 64.2 and 59.5, than outside them, 58.4 and 59.5.

The proportions per 1,000 total deaths were also higher in 1913 as well as 1912 for chartered cities than for the rest of California in the following important cases: Cancer, 75.3 and 71.2 against 52.6 and 49.8; pneumonia and broncho-pneumonia, 77.9 and 81.5 against 73.3 and 79.9; diseases of the digestive system other than diarrhea and enteritis, 55.6 and 59.7 against 45.6 and 45.0; suicide, 23.3 and 24.3 against 19.2 and 18.1; and diphtheria and croup, 5.4 and 4.4 against 3.8 and 4.2.

On the other hand, the proportions were higher in both 1913 and 1912 outside cities than within them in certain notable instances, as follows: Diseases of the nervous system other than meningitis, 90.1 and 86.5 as compared with 83.2 and 76.8; diarrhea and enteritis (under 2 years), 39.8 and 32.5 as compared with 28.5 and 26.4; violence other than suicide (*i. e.*, various accidental injuries), 101.8 and 98.4 as compared with 67.9 and 68.9; and miscellaneous causes (including "old age"), 50.0 and 48.0 as compared with 43.4 and 44.4.

In other words, there are relatively more deaths within chartered cities than outside them from heart disease, Bright's disease, cancer, pneumonia, digestive ailments (except diarrhea), and suicide, besides diphtheria and croup among epidemic diseases. Mortality is relatively greater outside cities than within them, however, from diseases of the nervous system (except meningitis), diarrhea and enteritis (under 2 years), accidental injuries, and "old age," as well as from typhoid fever, malarial fever, scarlet fever, and whooping cough, besides (generally) measles of the epidemic diseases.

Individual Counties.—Preceding figures for deaths in main and minor geographic divisions in 1913 and 1912 are supplemented by extended tables giving similar figures for the fifty-eight counties in both years. The counties are arranged in geographic order, by minor geographic

divisions, but for the sake of ready reference the counties in each group are listed alphabetically. The grouping of the counties according to geographic location facilitates the analysis of mortality conditions in any minor geographic division by immediate reference to the counties included in the group.

These tables, because of their length, are placed with other general tables toward the end of the section on deaths, but for convenience in reference the titles are given here as follows:

TABLE 29.—Deaths from certain principal causes, with proportion per 1,000 total deaths, for counties arranged geographically: 1913.

TABLE 30.—Deaths from certain principal causes, with proportion per 1,000 total deaths, for counties arranged geographically: 1912.

Individual Cities.—Corresponding figures for individual chartered cities appear in Tables 31 and 32, *post*. In these tables the cities are arranged in rough geographic order to facilitate comparisons between neighboring cities or between cities in the same portion of the State.

The tables for individual chartered cities in 1913 and 1912, like similar tables for counties, appear with other general tables toward the close of the section on deaths. However, the titles of these city tables are here given as follows:

TABLE 31.—Deaths from certain principal causes, with proportion per 1,000 total deaths, for freeholders' charter cities arranged geographically: 1913.

TABLE 32.—Deaths from certain principal causes, with proportion per 1,000 total deaths, for freeholders' charter cities arranged geographically: 1912.

TUBERCULOSIS IN CALIFORNIA.

The State.—Tuberculosis is the leading single cause of death in California, being the cause of about one seventh of all deaths. Of 38,599 deaths reported to the State Bureau of Vital Statistics for 1913, altogether 5,402 were from tuberculosis, and of 36,709 deaths reported for 1912, some 5,128 were also from the "great white plague," the per cent being 14.0 each year against the average of 14.6 for the five years last past.

For comparison it may be noted that in 1913 and 1912, respectively, the totals for all diseases of the circulatory system (heart disease, etc.) were 6,281 and 6,376; for diseases of the respiratory system (pneumonia, etc.) were only 3,806 and 3,840; for diseases of the nervous system were only 3,720 and 3,267; and for diseases of the digestive system were only 3,634 and 3,395.

From tuberculosis of the lungs there were 4,536 deaths in 1913 as compared with 4,316 in 1912, while from tuberculosis of other organs there were 866 deaths in 1913 against 812 in 1912. The distribution

of deaths from tuberculosis of the lungs and other organs was as follows for California in 1913 and 1912, respectively:

	1913	1912
Deaths from tuberculosis (all forms).....	5,402	5,128
Tuberculosis of the lungs.....	4,536	4,316
Tuberculosis of other organs.....	866	812
Acute miliary tuberculosis.....	108	139
Tuberculous meningitis.....	323	291
Abdominal tuberculosis.....	234	222
Pott's disease.....	49	42
White swellings.....	21	11
Tuberculosis of other organs.....	70	64
Disseminated tuberculosis.....	61	52

The proportion per 1,000 total deaths in 1913 was 117.5 for tuberculosis of the lungs and 22.4 for tuberculosis of other organs, or 139.9 for all forms of this disease. Of each 1,000 deaths in California in 1912, there were 117.6 from tuberculosis of the lungs and 22.1 from tuberculosis of other organs, or 139.7 from tuberculosis of all forms. For 1909 to 1913, moreover, the annual average proportion per 1,000 total deaths was 124.5 for pulmonary tuberculosis and 21.7 for other forms, or altogether 146.2 for all forms.

For an estimated State population of 2,671,491 in 1913 the death rate per 100,000 population is 169.8 for tuberculosis of the lungs and 32.4 for tuberculosis of other organs, or altogether 202.2 for all forms of this disease. Similarly, for an estimated population of 2,579,874 in 1912 the death rate per 100,000 is 167.3 for pulmonary tuberculosis and 31.5 for other forms, or 198.8 for all kinds. In short, the tuberculosis death rate per 100,000 population was no less than 202.2 in 1913 and 198.8 in 1912, the annual average being as great as 202.4 for the five year period, 1909 to 1913.

The general death rate per 1,000 population was 14.4 for California in 1913 and 14.2 in 1912, the rates being swollen greatly by deaths from tuberculosis. It will be shown that many deaths from tuberculosis in California occur among persons of short residence in the State, who evidently came here when too far gone with the disease to be cured. It is also quite likely that many other cases arising here are directly due to this imported infection.

Geographic Divisions.—Southern California is an especially popular resort for consumptives, and here nearly one fifth of all deaths are due to tuberculosis. The table which appears below shows the number and per cent of deaths from tuberculosis for the several geographic divisions of the State in both 1913 and 1912, together with the annual average per cents for 1909 to 1913 as additional data.

TABLE 6.—Number and Per Cent of Deaths from Tuberculosis, for Geographic Divisions:* 1913 and 1912.

Geographic division	Deaths		Tuberculosis				Annual average per cent: 1909 to 1913
	1913	1912	Number		Per cent		
			1913	1912	1913	1912	
THE STATE	38,599	36,709	5,402	5,128	14.0	14.0	14.6
<i>Northern California</i>	4,267	4,029	465	462	10.9	11.5	11.3
Coast counties	2,187	2,155	255	261	11.7	12.1	11.9
Interior counties	2,080	1,874	210	201	10.1	10.7	10.7
<i>Central California</i>	20,302	19,653	2,555	2,388	12.6	12.2	13.0
San Francisco	7,002	6,766	880	862	12.6	12.6	13.0
Other bay counties	4,602	4,470	516	539	11.2	12.1	12.2
Coast counties	2,431	2,332	311	264	12.8	11.3	13.5
Interior counties	6,267	6,065	848	733	13.5	12.0	13.3
<i>Southern California</i>	14,030	13,027	2,382	2,278	17.0	17.5	18.6
Los Angeles	9,705	8,890	1,636	1,577	16.9	17.7	18.6
Other counties	4,325	4,137	746	701	17.2	16.9	18.5
<i>Northern and Central California</i>	24,569	23,682	3,020	2,850	12.3	12.0	12.6
Coast counties	16,222	15,723	1,962	1,916	12.1	12.2	12.7
Interior counties	8,347	7,959	1,058	934	12.7	11.7	12.6
Metropolitan area	11,604	11,236	1,396	1,391	12.0	12.4	12.6
Rural counties	12,965	12,446	1,624	1,459	12.5	11.7	12.7

*For list of counties included in geographic divisions, see page 26.

Table 6 shows that for Southern California the per cent of total deaths from tuberculosis was 17.0 in 1913 and 17.5 in 1910 against the annual average of 18.6 for 1909 to 1913. Thus nearly one fifth of all deaths are due to tuberculosis in Los Angeles and the other counties south of Tehachapi, the annual average per cent for the five years last past being practically the same (18.6 against 18.5) for Los Angeles alone as for all the rest of Southern California.

North of Tehachapi, however, only about one eighth of all deaths are from tuberculosis, the per cents for Northern and Central California together being 12.3 in 1913 and 12.0 in 1912 against the average of 12.6 for 1909 to 1913. The annual average per cent in the five year period just ended was 13.0 for Central California and only 11.3 for Northern California, the prevalence of tuberculosis decreasing toward the north. The per cent was below the State figure for both 1913 and 1912, as well as below the average for all California in 1909 to 1913, for every main and minor geographic division north of Tehachapi, the interior counties of Northern California showing the minimum per cents, 10.1 in 1913 and 10.7 in 1912, as well as the lowest average, 10.7, for the five years last past.

The per cent of deaths from tuberculosis is virtually the same for the metropolitan area as for the rural counties north of Tehachapi, the annual average in 1909 to 1913 being 12.6 for the former against 12.7 for the latter. Within the metropolitan area, however, the annual average per cent is somewhat greater for San Francisco, 13.0, than for the other bay counties, 12.2.

Cities.—The following table gives the number and per cent of deaths from tuberculosis in 1913 and 1912, and in addition the annual average

per cents for 1909 to 1913, for chartered cities in contrast with the rest of the State, as well as for the individual cities:

TABLE 7.—Number and Per Cent of Deaths from Tuberculosis, for Individual Cities and Rest of State: 1913 and 1912.

City	Deaths		Tuberculosis				Annual average per cent: 1909 to 1913
	1913	1912	Number		Per cent		
			1913	1912	1913	1912	
CALIFORNIA	38,599	36,709	5,402	5,128	14.0	14.0	14.6
Freeholders' charter cities	23,519	22,322	3,238	3,098	13.8	13.9	14.5
<i>Northern California</i>							
Eureka	256	217	25	32	9.8	14.7	12.3
Napa	117	92	17	13	14.5	14.1	12.0
Petaluma	85	90	6	10	7.1	11.1	7.9
Santa Rosa	146	140	13	12	8.9	8.6	12.2
Grass Valley	71	62	8	11	11.3	17.7	14.9
<i>Central California</i>							
San Francisco	7,002	6,766	880	852	12.6	12.6	13.0
Alameda	290	325	32	25	11.0	7.7	9.9
Berkeley	456	439	37	42	8.1	9.6	9.3
Oakland	2,139	2,139	228	232	10.4	10.8	11.2
Richmond	159	135	11	11	6.9	8.1	8.2
San Rafael	92		13		14.1		*14.1
Monterey	67	66	9	9	13.4	13.6	†14.6
Salinas	74	57	7	4	9.5	7.0	10.1
San Luis Obispo	101	108	16	17	15.8	15.7	†15.8
Palo Alto	31	43	2	2	6.5	4.7	10.0
San Jose	452	472	59	61	13.1	12.9	14.2
Santa Cruz	174	182	25	10	14.4	5.5	10.7
Watsonville	90	98	13	12	14.4	12.9	14.5
Fresno	420	383	43	34	10.2	8.9	11.3
Sacramento	1,108	1,082	164	130	14.8	12.6	13.5
Stockton	460	596	75	96	16.3	16.2	16.9
Vallejo	170	136	14	14	8.2	10.3	10.5
Modesto	165	127	16	13	9.7	10.2	†10.0
<i>Southern California</i>							
Los Angeles	6,198	5,665	1,061	979	17.1	17.3	18.1
Long Beach	432	324	29	29	6.0	9.0	8.8
Pasadena	470	534	65	105	13.8	19.7	20.4
Pomona	155	152	21	19	13.5	12.5	†12.8
Santa Monica	178	168	14	11	8.0	6.5	9.4
Riverside	231	270	42	53	18.2	19.6	21.1
San Bernardino	323	296	91	64	28.2	21.5	26.7
San Diego	1,073	967	174	158	16.2	16.0	16.3
Santa Barbara	223	234	28	39	12.3	16.7	14.6
Rest of State	15,080	14,387	2,164	2,030	14.4	14.1	14.9

*Per cent for single year, 1913. †Average for two years, 1912 and 1913. ‡Average for three years, 1911 to 1913.

In the thirty-two freeholders' charter cities in 1913 the deaths from tuberculosis numbered 3,238, or 13.8 per cent, and in the thirty-one chartered cities in 1912 the deaths from this disease totaled 3,098, or 13.9 per cent. In the State outside cities the deaths from tuberculosis were 2,164, or 14.4 per cent of all, in 1913 and 2,030, or 14.1 per cent, in 1912.

For chartered cities as a class the per cent of deaths from tuberculosis was slightly less in 1913 than in 1912, 13.8 against 13.9, while for the State outside these cities the per cent was slightly greater in 1913 than in 1912, 14.4 as compared with 14.1. Moreover, the annual average per cent of deaths from tuberculosis in 1909 to 1913 was slightly less for chartered cities, 14.5, than for all the rest of the State, 14.9.

From the annual average per cents for 1909 to 1913 it appears that the mortality from tuberculosis was relatively greatest in the following cities: San Bernardino, 26.7; Riverside, 21.1; Pasadena, 20.4; Los Angeles, 18.1; Stockton, 16.9; and San Diego, 16.3. On the other hand, the annual average per cent of deaths from tuberculosis in the five year period was only 8.2 for Richmond, 8.8 for Long Beach, 9.3 for Berkeley, 9.4 for Santa Monica, 9.9 for Alameda, 10.0 for Palo Alto, 10.1 for Salinas, 10.5 for Vallejo, 10.7 for Santa Cruz, 11.2 for Oakland, and 11.3 for Fresno.

Length of Residence (Geographic Divisions).—The heavy mortality from tuberculosis in California is due largely to the immigration of people so badly afflicted with this disease that they can not recover, even under the most favorable climatic conditions, though they may lengthen their lives somewhat by coming to this land of sunshine. For it appears that many who died of tuberculosis in California had been residents of the Golden State for only a short time. This is shown for the several geographic divisions in 1913 and 1912 in the following table, giving numbers and per cents by length of residence:

TABLE 8.—Deaths from Tuberculosis Classified by Length of Residence in California, with Per Cents, for Geographic Divisions: 1913 and 1912.

Geographic division	Total	Length of residence					Per cent				
		Under 1 year	1 to 9 years	10 years and over	Life	Unknown	Under 1 year	1 to 9 years	10 years and over	Life	Unknown
1913.											
THE STATE.....	5,402	540	1,458	1,385	1,515	504	10.0	27.0	25.6	28.1	9.9
<i>Northern California</i>	465	15	66	170	173	41	3.2	14.2	36.6	37.2	8.9
Coast counties.....	255	2	43	90	103	17	0.8	16.8	35.3	40.4	6.7
Interior counties.....	210	13	23	80	70	24	6.2	11.0	38.1	33.3	11.4
<i>Central California</i>	2,555	100	441	704	1,005	305	3.9	17.3	27.6	39.3	11.9
San Francisco.....	880	32	150	261	349	88	3.6	17.0	29.7	39.7	10.9
Other bay counties.....	516	22	90	152	220	32	4.3	17.4	29.5	42.6	6.2
Coast counties.....	311	8	38	92	143	30	2.6	12.2	29.6	46.0	9.9
Interior counties.....	848	38	163	199	293	155	4.5	19.2	23.5	34.5	18.8
<i>Southern California</i>	2,382	425	951	511	337	158	17.8	39.9	21.5	14.2	6.9
Los Angeles.....	1,636	277	677	363	226	93	16.9	41.4	22.2	13.8	5.7
Other counties.....	746	148	274	148	111	65	19.9	36.7	19.8	14.9	8.7
<i>Northern and Central California</i>	3,020	115	507	874	1,178	346	3.8	16.8	28.9	39.0	11.7
Coast counties.....	1,062	64	321	595	815	167	3.3	16.4	30.3	41.5	8.7
Interior counties.....	1,058	51	186	279	363	179	4.8	17.6	28.4	34.3	10.9
Metropolitan area.....	1,393	54	240	413	569	120	3.9	17.2	29.6	40.7	8.9
Rural counties.....	1,624	61	267	461	609	226	3.8	16.4	28.4	37.5	13.0
1912.											
THE STATE.....	5,128	501	1,333	1,317	1,429	548	9.8	26.0	25.7	27.8	10.7
<i>Northern California</i>	462	19	66	161	180	36	4.1	14.3	34.8	39.0	7.8
Coast counties.....	261	6	41	78	111	25	2.3	15.7	29.9	42.5	9.7
Interior counties.....	201	13	25	83	69	11	6.5	12.4	41.3	34.3	5.7
<i>Central California</i>	2,388	99	375	687	923	304	4.1	15.7	28.8	38.7	12.7
San Francisco.....	852	34	104	246	344	124	4.0	12.2	28.9	40.4	14.7
Other bay counties.....	539	20	90	164	227	38	3.7	16.7	30.4	42.1	7.7
Coast counties.....	264	5	37	66	133	23	1.9	14.0	33.0	50.4	8.7
Interior counties.....	733	40	144	211	219	119	5.5	19.6	28.8	29.9	16.0
<i>Southern California</i>	2,278	383	892	469	326	208	16.8	39.2	20.6	14.3	9.2
Los Angeles.....	1,577	270	641	320	198	148	17.1	40.6	20.3	12.6	9.4
Other counties.....	701	113	251	149	128	60	16.1	35.8	21.2	18.3	8.6
<i>Northern and Central California</i>	2,850	118	441	848	1,103	340	4.1	15.5	29.8	38.7	11.6
Coast counties.....	1,916	65	272	554	815	210	3.4	14.2	28.9	42.5	11.9
Interior counties.....	934	53	169	294	288	130	5.7	18.1	31.5	30.8	12.9
Metropolitan area.....	1,391	54	194	410	571	162	3.9	13.9	29.5	41.1	11.6
Rural counties.....	1,459	64	247	438	532	178	4.4	16.9	30.0	36.5	12.2

Analysis of the per cents in Table 8, for 1913 and 1912, is facilitated by the annual averages for 1909 to 1913 presented in the following tabular statement for selected geographic divisions:

Geographic division.	Annual average per cent of deaths from tuberculosis: 1909 to 1913				
	Under 1 year	1 to 9 years	10 years and over	Life	Unknown
THE STATE.....	9.2	25.0	24.9	29.0	11.9
<i>Northern and Central California</i>	3.5	14.6	28.4	38.8	14.7
Metropolitan area	3.1	13.0	26.7	41.5	15.7
San Francisco	3.0	10.7	24.9	40.7	20.7
Other bay counties.....	3.3	16.7	29.5	42.8	7.7
Rural counties	4.0	15.9	30.0	36.4	13.7
<i>Southern California</i>	16.8	39.0	20.2	15.8	8.2
Los Angeles	17.1	40.0	20.3	14.2	8.4
Other counties	16.4	37.0	19.8	19.2	7.6

It appears from Table 8 and the tabular statement presented herewith that the per cent of tuberculosis victims in California who were natives of the State, having been here for life, was only 28.1 in 1913 and 27.8 in 1912, against the average of 29.0 for 1909 to 1913. The per cents for those born elsewhere who were residents of 10 years' standing were 25.6 and 25.7 in 1913 and 1912 against the average of 24.9, while the per cents for those who had lived in California only from 1 to 9 years were 27.0 and 26.0 against the average of 25.0. The per cent of all deaths from tuberculosis occurring among persons who had been in the State less than a year was 10.0 in 1913 and 9.8 in 1912, as compared with the average of 9.2 for 1909 to 1913. The length of residence was unknown for 9.3 per cent of the tuberculosis victims in 1913 and for 10.7 per cent in 1912, against the annual average of 11.9 for the five year period.

Reference to the annual average per cents for 1909 to 1913 in the preceding tabular statement shows that the per cent of tuberculosis victims who were natives of the State was no less than 38.8 for Northern and Central California against merely 15.8 for the territory south of Tehachapi. The average per cent of tuberculosis victims born in the State was 41.5 for the metropolitan area as compared with 36.4 for the rural counties north of Tehachapi, but was only 40.7 for the metropolis proper against 42.8 for the suburban counties.

The average per cent of deaths from tuberculosis among residents of 10 years' standing was 28.4 for the territory north of Tehachapi against only 20.2 for that to the south. The average per cent was 26.7 for the metropolitan area against 30.0 for the rural counties of Northern and Central California, and was 24.9 for San Francisco against 29.5 for the other bay counties.

In 1909 to 1913, by the annual averages, altogether 34.2 of the deaths from tuberculosis in California as a whole occurred among residents of less than 10 years' standing, 25.0 per cent having lived here from 1 to 9 years and 9.2 per cent under 1 year.

The average per cent for residents of less than 10 years' standing is above the State figure, 34.2, only for Southern California, 55.8, the per cent being 57.1 for Los Angeles and 53.4 for the other counties south of Tehachapi. On the other hand, the corresponding average per cent was only 18.1 for the territory north of Tehachapi, being only 16.1 for the metropolitan area against 19.9 for the rural counties and merely 13.7 for San Francisco against 20.0 for the suburban counties.

It seems, therefore, that in Southern California, where nearly one fifth of all deaths are from tuberculosis, considerably more than half of these deaths occurred among persons who had been in the State less than 10 years when they died. In fact, about one sixth of all tuberculosis victims south of Tehachapi had resided in California less than a year, the annual average per cent in 1909 to 1913 being 17.1 for Los Angeles and 16.4 for the other counties, or 16.8 for Southern California as a whole.

Length of Residence (Cities).—The preceding figures on length of residence for geographic divisions in 1913 and 1912 are supplemented by those in the following table for the several chartered cities in contrast with the rest of the State, the cities being arranged according to geographic location. The absolute figures are shown for each of the thirty-two chartered cities in 1913 and the thirty-one in 1912, but the per cents have been calculated only for those cities reporting at least 25 deaths from tuberculosis in either year, respectively.

TABLE 9.—Deaths from Tuberculosis Classified by Length of Residence in California, with Per Cents, for Individual Cities and Rest of State: 1913 and 1912.

City	Total	Length of residence					Per cent					
		Under 1 year.	1 to 9 years	10 years and over	Life	Unknown	Under 1 year.	1 to 9 years	10 years and over	Life	Unknown	
1913.												
CALIFORNIA	5,402	540	1,458	1,385	1,515	504	10.0	27.0	25.6	28.1	9.3	
32 Freeholders' charter cities	3,238	384	904	861	884	255	10.8	27.9	26.6	27.3	7.9	
<i>Northern California</i>												
Eureka	25	1	4	12	6	2	4.0	16.0	48.0	24.0	8.0	
Napa	17		1	7	8	1	*	*	*	*	*	
Petaluma	6			2	4		*	*	*	*	*	
Santa Rosa	13		2	4	7		*	*	*	*	*	
Grass Valley	8		1	3	4		*	*	*	*	*	
<i>Central California</i>												
San Francisco	880	82	150	261	349	88	8.6	17.0	29.7	39.7	10.0	
Alameda	32	1	6	11	13	1	3.1	18.8	34.4	40.6	3.1	
Berkeley	37	6	7	10	14		16.2	18.9	27.0	37.9		
Oakland	228	6	46	68	96	12	2.6	20.2	29.8	42.1	5.3	
Richmond	11	1		4	6		*	*	*	*	*	
San Rafael	13			7	6		*	*	*	*	*	
Monterey	9			5	4		*	*	*	*	*	
Salinas	7			3	4		*	*	*	*	*	
San Luis Obispo	16		2	5	9		*	*	*	*	*	
Palo Alto	2			1		1	*	*	*	*	*	
San Jose	50	1	8	19	30	1	1.7	13.6	32.2	50.8	1.7	
Santa Cruz	25	3	1	8	10	3	12.0	4.0	32.0	40.0	12.0	
Watsonville	13	1	3		8	1	*	*	*	*	*	
Fresno	43	4	7	11	16	5	9.3	16.3	25.6	37.2	11.6	
Sacramento	164	5	21	28	52	58	3.0	12.8	17.1	31.7	35.4	
Stockton	75	1	11	27	31	5	1.3	14.7	36.0	41.3	6.7	
Vallejo	14	1	1	1	11		*	*	*	*	*	
Modesto	16		8	3	3	2	*	*	*	*	*	
<i>Southern California</i>												
Los Angeles	1,061	171	452	252	184	52	16.1	42.6	23.8	12.6	4.0	
Long Beach	29	6	15	5	2	1	20.7	51.7	17.2	6.9	3.5	
Pasadena	66	14	24	19	8		21.6	36.9	29.2	12.3		
Pomona	21	2	9	6	4		*	*	*	*	*	
Santa Monica	14	3	3	5	3		*	*	*	*	*	
Riverside	42	13	11	10	6	2	30.9	26.2	23.8	14.3	4.8	
San Bernardino	91	16	34	16	9	16	17.6	37.3	17.6	9.9	17.6	
San Diego	174	44	69	41	17	3	25.3	39.6	23.6	9.8	1.7	
Santa Barbara	28	2	8	7	10	1	7.1	28.6	25.0	35.7	8.6	
Rest of State.....	2,164	206	564	524	631	249	9.5	25.6	24.2	29.2	11.5	
1912.												
CALIFORNIA	5,128	501	1,333	1,317	1,429	548	9.8	26.0	25.7	27.8	10.7	
31 Freeholders' charter cities	3,098	318	823	790	837	330	10.3	26.6	25.5	27.0	10.6	
<i>Northern California</i>												
Eureka	32	1	5	8	14	4	3.1	15.6	25.0	43.8	12.5	
Napa	13	2	1	3	6	1	*	*	*	*	*	
Petaluma	10		2	2	6		*	*	*	*	*	
Santa Rosa	12		4	3	4	1	*	*	*	*	*	
Grass Valley	11		2	7	1	1	*	*	*	*	*	

TABLE 9—Continued.

City	Total	Length of residence					Per cent				
		Under 1 year	1 to 9 years	10 years and over	Life	Unknown	Under 1 year	1 to 9 years	10 years and over	Life	Unknown
<i>Central California</i>											
San Francisco	852	34	104	246	344	124	4.0	12.2	28.9	40.4	14.5
Alameda	25	2	2	8	13		8.0	8.0	32.0	52.0	
Berkeley	42	1	6	12	23		2.4	14.3	28.6	54.7	
Oakland	222	11	46	72	87	16	4.8	19.8	31.0	37.5	6.9
Richmond	11		2	2	6	1	*	*	*	*	*
Monterey	9				9		*	*	*	*	*
Salinas	4			1	3		*	*	*	*	*
San Luis Obispo	17		2	6	9		*	*	*	*	*
Palo Alto	2			2			*	*	*	*	*
San Jose	61	4	8	19	28	2	6.6	13.1	31.1	45.9	3.3
Santa Cruz	10		2		7	1	*	*	*	*	*
Watsonville	12		2	3	7		*	*	*	*	*
Fresno	34	2	10	11	10	1	5.9	29.4	32.4	29.4	2.9
Sacramento	130	10	16	25	40	39	7.7	12.3	19.2	30.8	30.0
Stockton	95	2	20	38	27	8	2.1	21.1	40.0	28.4	8.4
Vallejo	14		2	5	7		*	*	*	*	*
Modesto	13	1	2	5	4	1	*	*	*	*	*
<i>Southern California</i>											
Los Angeles	979	157	403	207	113	99	16.0	41.2	21.2	11.5	10.1
Long Beach	29	11	10	3	5		37.9	34.5	10.4	17.2	
Pasadena	105	19	49	29	8		18.1	46.7	27.6	7.6	
Pomona	19	4	7	5	1	2	*	*	*	*	*
Santa Monica	11	4	5	1			*	*	*	*	*
Riverside	53	5	23	12	12	1	9.4	43.4	22.7	22.6	1.9
San Bernardino	64	7	28	9	5	15	10.9	43.8	14.1	7.8	23.4
San Diego	158	40	52	42	16	8	25.3	32.9	26.6	10.1	5.1
Santa Barbara	39	1	8	4	22	4	2.6	20.5	10.3	56.4	10.2
Rest of State	2,030	183	510	527	592	218	9.0	25.1	26.0	29.2	10.7

*Per cents not shown for totals less than 25.

As before, analysis of the per cents in this table, for 1913 and 1912, is aided by the annual averages for 1909 to 1913 presented herewith for chartered cities in contrast with the rest of the State as well as for selected individual cities, *i. e.* all having at least 25 deaths from tuberculosis in each of the five years last past.

City	Annual average per cent of deaths from tuberculosis: 1909 to 1913				
	Under 1 year	1 to 9 years	10 years and over	Life	Unknown
CALIFORNIA	9.2	25.0	24.9	29.0	11.0
Freeholders' charter cities	9.4	26.1	24.9	28.1	11.5
Rest of State	8.9	23.3	24.9	30.3	12.6
Selected cities:					
<i>Northern and Central California.</i>					
San Francisco	3.0	10.7	24.9	40.7	20.7
Alameda	2.2	15.8	34.6	45.5	1.9
Berkeley	5.5	20.5	24.6	48.3	1.1
Oakland	3.1	18.0	30.0	41.1	7.8
San Jose	4.3	15.2	23.3	48.6	2.6
Fresno	8.2	23.2	28.8	31.1	8.7
Sacramento	3.9	16.7	25.5	34.8	19.1
Stockton	1.2	18.4	42.4	28.5	9.5
<i>Southern California.</i>					
Los Angeles	15.9	41.1	22.1	13.2	7.7
Pasadena	19.1	47.3	23.8	9.0	0.8
Riverside	18.0	41.9	18.5	18.4	3.2
San Bernardino	15.2	42.2	16.9	8.6	17.1
San Diego	21.3	37.3	24.6	12.9	3.9

It appears from this tabular statement that the distribution of tuberculosis deaths according to length of residence in California is not far from the same for chartered cities as for all the rest of the State. The annual average per cent in 1909 to 1913 for native Californians was 28.1 for chartered cities against 30.3 for the rest of the State. For residents of 10 years' standing and over the average per cent was exactly the same, 24.9, within cities as outside them, while for residents of less than 10 years' standing the per cent was altogether 35.5 for cities as a class against 32.2 for the rural territory as a whole. The average per cent of unknown length of residence was 11.5 for chartered cities as compared with 12.6 for the rest of the State.

Several of the cities in Southern California show a large proportion of deaths from tuberculosis among persons who had lived in California a comparatively short time. For residents of less than 10 years' standing the annual average per cent in 1909 to 1913 totaled as much as 66.4 for Pasadena, 59.9 for Riverside, 58.6 for San Diego, 57.4 for San Bernardino, and 57.0 for Los Angeles.

Moreover, the annual average per cent of tuberculosis victims who had lived in California less than a year was quite high in cities of Southern California, as follows: San Diego, 21.3; Pasadena, 19.1; Riverside, 18.0; Los Angeles, 15.9; and San Bernardino, 15.2.

Southern California.—In fact, many who died of tuberculosis in Southern California cities or in the whole territory south of Tehachapi had lived in the State only a few months. This appears clearly from the following table giving numbers and per cents by length of residence in months for Southern California in 1913 and 1912:

TABLE 10.—Deaths from Tuberculosis Classified by Length of Residence (In Months), with Per Cents, for Southern California: 1913 and 1912.

Geographic division	Length of residence									
	Total under 1 year		Under 1 month		1 to 2 months		3 to 5 months		6 to 11 months	
	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912
Numbers.										
<i>Southern California</i>	425	383	51	42	105	94	118	107	151	140
Los Angeles	277	270	33	29	56	70	79	70	109	101
Other counties ..	148	113	18	13	49	24	39	37	42	39
Per Cents.										
<i>Southern California</i>	17.8	16.8	2.1	1.8	4.4	4.1	5.0	4.7	6.3	6.2
Los Angeles	16.9	17.1	2.0	1.9	3.4	4.4	4.8	4.4	6.7	6.4
Other counties ..	19.9	16.1	2.4	1.8	6.6	3.4	5.2	5.3	5.7	5.6

Table 10 for 1913 and 1912 may be supplemented by the annual average per cents for 1909 to 1913 presented in the following tabular statement:

Geographic division.	Annual average per cent of deaths from tuberculosis: 1909 to 1913				
	Total under 1 year	Under 1 month	1 to 2 months	3 to 5 months	6 to 11 months
<i>Southern California</i>	16.8	1.8	4.5	4.8	5.7
Los Angeles	17.1	1.8	4.3	4.9	6.1
Other counties	16.4	2.0	4.8	4.5	5.1

From the supplementary annual average per cents for 1909 to 1913 it appears that of all who died of tuberculosis in Southern California 1.8 per cent had been in the State less than a month, altogether 6.3 per cent less than three months, and altogether 11.1 per cent less than six months. Of all the tuberculosis victims in Los Angeles, an average of 11.0 per cent had resided in California less than half a year, the corresponding figure being 11.3 for the other counties south of Tehachapi.

Month of Death.—The following table gives the number and per cent of deaths occurring each month from tuberculosis for California as a whole in both 1913 and 1912, together with the corresponding per cents for 1911 and 1910 and annual average per cents for the four year period, 1910 to 1913:

TABLE 11.—Number and Per Cent of Deaths Occurring Each Month from Tuberculosis, for California: 1913 and 1912.

Month	Deaths		Tuberculosis				Corresponding per cent		Annual average per cent: 1910 to 1913.
			Number		Per cent				
	1913	1912	1913	1912	1913	1912	1911	1910	
STATE TOTAL	38,569	36,709	5,402	5,128	14.0	14.0	15.0	15.0	14.5
January	4,146	3,437	525	474	12.7	13.8	15.0	16.0	14.4
February	3,165	3,104	468	489	14.8	15.8	14.7	17.2	15.6
March	3,408	3,409	532	502	15.6	14.7	17.2	16.6	16.0
April	3,238	3,046	494	474	15.3	15.6	16.9	16.5	16.1
May	3,258	3,044	445	497	13.7	16.3	17.9	16.2	16.0
June	3,069	2,788	456	372	14.8	13.3	15.2	15.0	14.6
July	3,075	2,992	414	385	13.5	12.9	15.4	13.3	13.8
August	2,948	2,697	378	378	12.8	13.8	14.0	14.7	13.8
September	2,809	2,666	406	316	14.4	11.9	14.9	12.9	13.5
October	3,026	2,971	434	344	14.3	11.6	12.8	12.3	12.8
November	2,968	3,019	407	409	13.6	13.5	12.6	15.2	13.7
December	3,449	3,546	444	493	12.9	13.9	13.6	14.2	13.7

It appears from Table 11 that the per cent of deaths from tuberculosis was highest for March (15.6) in 1913, for May (16.3 and 17.9) in both 1912 and 1911, and for February (17.2) in 1910. From the annual average per cents for the whole four years, 1910 to 1913, it seems that the period of greatest mortality from tuberculosis covers the months of February, March, April and May, while the time when deaths from this disease are relatively least numerous extends over the months of August, September, October, and November. The high mortality from tuberculosis in California in the spring months may be ascribed in part to deaths occurring at this season among consumptives who came from the east in earlier winter months only to succumb finally to their dread malady after a comparatively short residence here.

Conclusion.—These figures give only a minimum statement of the extent to which the general death rate of California is swollen by the deaths of persons who were stricken with tuberculosis elsewhere, and who simply came here in the hope of recovering, or with the expectation of at least lengthening their lives in the glorious climate of the Golden State. The statistics cover only the deaths that occur among these recent residents, in many cases quite soon after their arrival in this land of sunshine. No data are available to tell what proportion of deaths

from tuberculosis among native Californians and old-time residents are directly due to imported infection by the presence here of sick people from other places. It is quite evident, however, that the death rate of California is swollen somewhat by the unhealthfulness, not of this State, but of other states, being increased, in fact, by the wide fame of California as a curative health resort. For the leading single cause of death the State is one which finds most of its victims among newcomers seeking restored health and finding longer, happier life in the balmy atmosphere of California.

DEATHS BY SEX, RACE, NATIVITY AND AGE PERIODS.

Sex.—The proportion of the sexes among decedents is given in the following table for the several geographic divisions in 1913 and 1912, both numbers and per cents being shown :

TABLE 12.—Deaths Classified by Sex, with Per Cents, for Geographic Divisions: 1913 and 1912.

Geographic division	Deaths						Per cent male		Per cent female	
	Total		Male		Female		1913	1912	1913	1912
	1913	1912	1913	1912	1913	1912				
THE STATE -----	38,599	36,709	23,807	22,634	14,792	14,075	61.7	61.7	38.3	38.3
<i>Northern California</i> -----	4,267	4,029	2,871	2,741	1,396	1,288	67.3	68.0	32.7	32.0
Coast counties -----	2,187	2,155	1,446	1,451	741	704	66.1	67.3	33.9	32.7
Interior counties -----	2,080	1,874	1,425	1,290	655	584	68.5	68.8	31.5	31.2
<i>Central California</i> -----	20,302	19,653	12,619	12,184	7,688	7,469	62.2	62.0	37.8	38.0
San Francisco -----	7,002	6,766	4,350	4,180	2,652	2,586	62.1	61.8	37.9	38.2
Other bay counties -----	4,602	4,470	2,737	2,622	1,865	1,848	59.5	58.7	40.5	41.3
Coast counties -----	2,431	2,332	1,461	1,374	970	958	60.1	58.9	39.9	41.1
Interior counties -----	6,267	6,085	4,071	4,008	2,196	2,077	65.0	65.9	35.0	34.1
<i>Southern California</i> -----	14,030	13,027	8,317	7,709	5,713	5,318	59.3	59.2	40.7	40.8
Los Angeles -----	9,705	8,890	5,635	5,142	4,070	3,748	58.1	57.8	41.9	42.2
Other counties -----	4,325	4,137	2,682	2,567	1,643	1,570	62.0	62.0	38.0	38.0
<i>Northern and Central California</i> -----	24,569	23,682	15,490	14,925	9,079	8,757	63.0	63.0	37.0	37.0
Coast counties -----	16,222	15,723	9,994	9,627	6,228	6,096	61.6	61.2	38.4	38.8
Interior counties -----	8,347	7,959	5,496	5,298	2,851	2,661	65.8	66.6	34.2	33.4
Metropolitan area -----	11,604	11,236	7,067	6,802	4,517	4,434	61.1	60.5	38.9	39.5
Rural counties -----	12,965	12,446	8,403	8,123	4,562	4,323	64.8	65.3	35.2	34.7

Table 12 shows that of 38,599 persons who died in California in 1913, altogether 23,807 or 61.7 per cent were male, and 14,792 or 38.3 per cent were female. Similarly, among the 36,709 deaths in 1912, the males were 22,634 or 61.7 per cent, and the females were 14,075 or 38.3 per cent, the per cents by sex being the same for 1913 as for 1912. It may be added that for 1909 to 1913, the annual average per cent male was 62.0, and the per cent female was 38.0.

Each year the per cent male was highest for Northern California, 67.3 in 1913 and 68.0 in 1912, and next for Central California, 62.2 and 62.0, the per cent being 63.0 each year for Northern and Central California together against 59.3 in 1913 and 59.2 in 1912 for Southern California.

The per cents male were highest among minor geographic divisions for the interior counties of Northern California, 68.5 and 68.8; next

for the coast counties of Northern California, 66.1 and 67.3; and next for the interior counties of Central California, 65.0 and 65.9. The per cents male were lowest of all each year for Los Angeles, 58.1 and 57.8, and next for the bay counties other than San Francisco, 59.5 and 58.7.

The per cents male were much less for the metropolitan area (61.1 and 60.5) than for the rural counties north of Tehachapi (64.8 and 65.3), but were much greater for San Francisco (62.1 and 61.8) than for the group of other bay counties (59.5 and 58.7).

Sex and Cause of Death.—The following table shows for California as a whole in both 1913 and 1912, the deaths from certain principal causes classified by sex, with the per cents male and female:

TABLE 13.—Deaths from Certain Principal Causes Classified by Sex, with Per Cents, for California: 1913 and 1912.

Cause of death	Deaths						Per cent male		Per cent female	
	Total		Male		Female		1913	1912	1913	1912
	1913	1912	1913	1912	1913	1912				
ALL CAUSES	38,599	36,709	23,807	22,634	14,792	14,075	61.7	61.7	38.3	38.3
Typhoid fever	438	454	294	309	142	145	67.4	68.1	32.6	31.9
Malarial fever	77	101	46	58	31	43	59.7	57.4	40.3	42.6
Smallpox	15	16	8	9	7	7	53.3	56.3	43.7	43.7
Measles	154	134	75	67	79	67	48.7	50.0	51.3	50.0
Scarlet fever	85	34	42	13	43	21	49.4	38.2	50.6	61.8
Whooping-cough	128	198	52	87	76	106	40.6	45.1	59.4	54.9
Diphtheria and croup.....	183	158	106	86	80	72	57.0	54.4	43.0	45.6
Influenza	220	146	108	70	112	76	49.1	47.9	50.9	52.1
Plague	2		1		1		50.0		50.0	
Other epidemic diseases...	180	186	102	106	78	80	56.7	57.0	43.3	43.0
Tuberculosis of lungs.....	4,536	4,316	3,063	2,856	1,473	1,460	67.5	66.2	32.5	33.8
Tuberculosis of other organs	893	812	496	458	398	354	57.5	56.4	42.5	43.6
Cancer	2,565	2,906	1,241	1,095	1,324	1,211	48.4	47.5	51.6	52.5
Other general diseases.....	1,733	1,621	1,050	1,014	683	607	60.6	62.6	39.4	37.4
Meningitis	405	808	233	180	172	128	57.5	58.4	42.5	41.6
Other diseases of nervous system	3,315	2,959	1,927	1,771	1,388	1,188	58.1	59.9	41.9	40.1
Diseases of circulatory system	6,281	6,376	3,920	3,985	2,361	2,391	62.4	62.5	37.6	37.5
Pneumonia and broncho-pneumonia	2,933	2,968	1,769	1,790	1,169	1,178	60.2	60.3	39.8	39.7
Other diseases of respiratory system	868	872	497	491	371	381	57.3	56.3	42.7	43.7
Diarrhea and enteritis, under 2 years	1,270	1,056	708	592	562	464	55.7	56.1	44.3	43.9
Diarrhea and enteritis, 2 years and over.....	369	359	195	192	174	167	52.8	53.5	47.2	46.5
Other diseases of digestive system	1,995	1,980	1,223	1,205	772	775	61.3	60.9	38.7	39.1
Bright's disease and nephritis	2,392	2,185	1,538	1,407	854	778	64.3	64.4	35.7	35.6
Childbirth	395	363			395	363			100.0	100.0
Diseases of early infancy.....	1,444	1,369	836	771	608	598	57.9	56.3	42.1	43.7
Suicide	837	803	682	677	155	126	81.5	84.3	18.5	15.7
Other violence	3,133	2,952	2,572	2,395	561	557	82.1	81.1	17.9	18.9
All other causes.....	1,774	1,682	1,021	950	753	732	57.6	56.5	42.4	43.5

This table shows that in both 1913 and 1912 the per cents male were highest for deaths from the following important causes: Suicide, 81.5 and 84.3; other violence, 82.1 and 81.1; typhoid fever, 67.4 and 68.1; tuberculosis of the lungs, 67.5 and 66.2; Bright's disease and nephritis, 64.3 and 64.4; and diseases of the circulatory system, 62.4 and 62.5.

On the other hand, except of course for deaths from childbirth, the per cent female was notably high each year only for whooping-cough, 59.4 in 1913 and 54.9 in 1912; cancer, 51.6 and 52.5; scarlet fever, 50.6 and 61.8; influenza, 50.9 and 52.1; and measles, 51.3 and 50.0. In all other cases the male decedents outnumbered the female, for some diseases greatly.

Race.—The race distribution of persons dying in the several geographic divisions in 1913 and 1912 is given in the following table, together with the per cent white among decedents:

TABLE 14.—Deaths Classified by Race, with Per Cent White, for Geographic Divisions: 1913 and 1912.

Geographic division	Deaths						Per cent white
	Total	White	Negro	Indian	Chinese	Japanese	
1913.							
THE STATE.....	38,569	36,501	595	183	707	613	94.6
<i>Northern California</i>	4,267	4,017	26	110	83	31	94.1
Coast counties.....	2,187	2,088	4	59	19	17	95.5
Interior counties.....	2,080	1,929	22	51	64	14	92.7
<i>Central California</i>	20,302	19,091	227	48	547	389	94.0
San Francisco.....	7,002	6,666	49	1	230	56	95.2
Other bay counties.....	4,302	4,369	96	4	80	53	94.9
Coast counties.....	2,431	2,279	14	8	46	84	93.7
Interior counties.....	6,267	5,777	68	35	101	106	92.2
<i>Southern California</i>	14,030	13,393	342	25	77	193	95.5
Los Angeles.....	9,705	9,238	270	3	53	141	95.2
Other counties.....	4,325	4,155	72	22	24	52	96.1
<i>Northern and Central California</i>	24,569	23,108	253	158	630	420	94.1
Coast counties.....	16,222	15,402	163	72	375	210	94.9
Interior counties.....	8,347	7,706	90	86	255	210	92.3
Metropolitan area.....	11,604	11,035	145	5	310	109	95.1
Rural counties.....	12,965	12,073	108	153	320	311	93.1
1912.							
THE STATE.....	36,709	34,732	543	169	741	524	94.6
<i>Northern California</i>	4,029	3,819	18	100	75	17	94.8
Coast counties.....	2,155	2,066	6	60	18	5	95.9
Interior counties.....	1,874	1,753	12	40	57	12	93.5
<i>Central California</i>	19,653	18,430	244	39	592	348	93.8
San Francisco.....	6,766	6,387	53	1	273	52	94.4
Other bay counties.....	4,470	4,256	88	4	77	45	95.2
Coast counties.....	2,332	2,194	11	3	56	68	94.1
Interior counties.....	6,365	5,593	92	31	186	183	91.9
<i>Southern California</i>	13,027	12,483	281	30	74	159	95.8
Los Angeles.....	8,890	8,480	233	6	52	119	95.4
Other counties.....	4,137	4,003	48	24	22	40	96.8
<i>Northern and Central California</i>	23,682	22,249	262	139	667	365	93.9
Coast counties.....	15,723	14,903	158	68	424	170	94.8
Interior counties.....	7,959	7,346	104	71	243	195	92.3
Metropolitan area.....	11,236	10,643	141	5	350	97	94.7
Rural counties.....	12,446	11,606	121	134	317	268	93.3

It appears from Table 14 that in 1913 the white decedents numbered 36,501, or 94.6 per cent; the Chinese, 707; the Japanese, 613; the negroes, 595; and the Indians, 183. For 1912, the figures were as follows: White, 34,732, or 94.6 per cent; Chinese, 741; negro, 543. Japanese, 524; and Indian, 169.

The per cent white for California as a whole was exactly the same in both 1913 and 1912 as the annual average per cent of 94.6 for the five-year period, 1909 to 1913.

In 1913 and 1912, respectively, the per cents white were 95.5 and 95.8 for Southern California as compared with 94.1 and 93.9 for Northern and Central California together, the per cents for Northern California being 94.1 and 94.8 and for Central California being 94.0 and 93.8.

Among minor geographic divisions, the per cents white were above the State average of 94.6 each year in the following cases: Southern California outside Los Angeles, 96.1 and 96.8; coast counties of Northern California, 95.5 and 95.9; Los Angeles, 95.2 and 95.4; and bay counties other than San Francisco, 94.9 and 95.2. The per cent white was also above the average in 1913 alone for San Francisco, 95.2.

The per cent white was somewhat greater each year for the metropolitan area (95.1 and 94.7) than for the rural counties north of Tehachapi (93.1 and 93.3), but was not far from the same for the metropolis proper (95.2 and 94.4) as for the suburban counties (94.9 and 95.2).

Each year the deaths among Chinese occurred mainly in San Francisco and suburbs and in the interior counties of Central California. The deaths of Japanese occurred mainly in the interior counties of Central California and also in Los Angeles. The number of negro decedents was particularly great only for Los Angeles in both years. Almost two thirds of the Indian deaths each year were in Northern California.

Race and Cause of Death.—The following table shows for California in 1913 and 1912 the deaths from certain principal causes classified by race, as well as the per cent white in each case:

TABLE 15.—Deaths from Certain Principal Causes Classified by Race, with Per Cent White, for California: 1913 and 1912.

Cause of death	Deaths						Per cent white
	Total	White	Negro	Indian	Chinese	Japa- nese	
1913.							
ALL CAUSES	28,599	36,501	595	183	707	613	94.6
Typhoid fever	436	399	5	1	6	25	91.5
Malarial fever	77	68	1	1	3	4	88.3
Smallpox	15	15					100.0
Measles	154	146	1	2		5	94.8
Scarlet fever	85	75			10		88.2
Whooping-cough	128	120	3	1		4	93.8
Diphtheria and croup	186	179		1	2	4	96.2
Influenza	220	216	1		3		98.2
Plague	2	1				1	50.0
Other epidemic diseases	180	173	2	3	1	1	96.1
Tuberculosis of lungs	4,536	4,113	130	44	180	69	90.7
Tuberculosis of other organs	866	796	26	7	8	29	91.9
Cancer	2,565	2,497	27	2	36	3	97.3
Other general diseases	1,733	1,662	24	7	23	17	95.9
Meningitis	405	377	8	1	1	18	93.1
Other diseases of nervous system	3,315	3,190	47	9	54	15	96.2
Diseases of circulatory system	6,281	6,071	86	9	98	17	96.7
Pneumonia and broncho-pneumonia	2,938	2,754	48	17	52	67	93.7
Other diseases of respiratory system	868	825	6	5	21	11	95.0
Diarrhea and enteritis, under 2 years	1,270	1,162	11	13	8	76	91.5
Diarrhea and enteritis, 2 years and over	369	343	4	6	9	7	93.0
Other diseases of digestive system	1,995	1,839	23	6	40	37	94.7
Bright's disease and nephritis	2,392	2,288	36	4	46	18	95.7
Childbirth	395	367	4	2	3	19	92.9
Diseases of early infancy	1,444	1,334	25	10	12	63	92.4
Suicide	837	795	7	1	14	20	95.0
Other violence	3,133	2,942	44	23	51	73	93.9
All other causes	1,774	1,704	26	8	26	10	96.1
1912.							
ALL CAUSES	36,709	34,732	543	169	741	524	94.6
Typhoid fever	454	416	4	1	8	25	91.6
Malarial fever	101	89		1	8	3	88.1
Smallpox	16	15	1				93.8
Measles	134	130		1	2	1	97.0
Scarlet fever	34	34					100.0
Whooping-cough	193	178	5	2	2	6	92.2
Diphtheria and croup	158	157			1		99.4
Influenza	146	140	3		1	2	95.9
Other epidemic diseases	186	177		1	6	2	95.2
Tuberculosis of lungs	4,316	3,949	110	40	167	50	91.5
Tuberculosis of other organs	812	734	20	9	17	32	90.4
Cancer	2,306	2,245	21	2	27	11	97.4
Other general diseases	1,621	1,541	24	5	41	10	95.1
Meningitis	308	283	5	1	3	16	91.9
Other diseases of nervous system	2,969	2,867	45	4	42	11	96.6
Diseases of circulatory system	6,376	6,148	68	11	123	26	96.4
Pneumonia and broncho-pneumonia	2,968	2,768	52	22	64	62	93.3
Other diseases of respiratory system	872	833	13	3	8	15	95.5
Diarrhea and enteritis, under 2 years	1,056	982	8	7	8	51	93.0
Diarrhea and enteritis, 2 years and over	359	333	6	2	10	8	92.8
Other diseases of digestive system	1,990	1,870	34	8	39	29	94.4
Bright's disease and nephritis	2,185	2,079	34	6	53	13	95.1
Childbirth	363	347	3	1		12	95.6
Diseases of early infancy	1,369	1,300	14	5	7	43	95.0
Suicide	803	758	9		16	20	94.4
Other violence	2,952	2,754	43	25	73	57	93.3
All other causes	1,682	1,615	21	12	15	19	96.0

The per cents white were above the general average of 94.6 in both 1913 and 1912 for deaths from the following important causes: Diphtheria and croup, 96.2 and 99.4; influenza, 98.2 and 95.9; measles, 94.8 and 97.0; cancer, 97.3 and 97.4; diseases of the circulatory system, 96.7 and 96.4; diseases of the nervous system other than meningitis, 96.2 and 96.6; Bright's disease and nephritis, 95.7 and 95.1; and diseases of the respiratory system other than pneumonia and broncho-pneumonia, 95.0 and 95.5.

The table shows, however, that the per cents white are very low indeed for typhoid fever, 91.5 and 91.6, as well as for tuberculosis, being 90.7 and 91.5 for the pulmonary form and 91.9 and 90.4 for all other kinds.

From further analysis of the figures in the table it appears that the proportion of Caucasians among all dying from typhoid fever is relatively small, because many deaths from this disease occur among the Japanese, and that the proportion of Caucasians among tuberculosis victims is relatively small, because the "great white plague" is especially fatal among Chinese and negroes.

Thus, the per cents Japanese among all dying from typhoid fever were no less than 5.7 in 1913 (25 among 436) and 5.5 in 1912 (25 among 454), while the per cent Japanese among all decedents was only 1.6 in 1913 and 1.4 in 1912.

Likewise, the Chinese and negroes are strongly represented among the victims of pulmonary tuberculosis in California, the Chinese who died from tuberculosis of the lungs numbering 180 in 1913 and 167 in 1912, and the negroes numbering, respectively, 130 and 110. While the per cent Chinese was only 1.8 in 1913 and 2.0 in 1912 among all decedents in California, the per cents Chinese were no less than 4.0 and 3.9 for deaths from tuberculosis of the lungs. Similarly, while the per cent negro was only 1.5 each year among all decedents, the per cent negro was as great as 2.8 in 1913 and 2.5 in 1912 among those dying from pulmonary tuberculosis alone. For tuberculosis of other organs than the lungs the per cents in 1913 and 1912, respectively, were notably high for Japanese, 3.4 and 3.9, as well as for negroes, 3.0 and 2.5.

Nativity of White Decedents.—In further analysis of deaths by race, the nativity of white decedents is worth considering. Accordingly, Table 16, which follows, has been prepared classifying white decedents as born in California, born in other states, foreign born, or nativity unknown.

TABLE 16.—White Decedents Classified by Nativity, with Per Cents, for Geographic Divisions: 1913 and 1912.

Geographic divisions	White decedents					Per cent			
	Total	Born in Cal- ifornia	Born in other states	For- eign born	Un- known	Born in Cal- ifornia	Born in other states	For- eign born	Un- known
1913.									
THE STATE -----	36,501	9,675	14,297	11,404	1,125	26.5	39.2	31.2	8.1
<i>Northern California</i> ----	4,017	1,086	1,550	1,267	164	25.8	38.6	31.5	4.1
Coast counties -----	2,068	548	753	737	50	26.2	36.1	35.3	2.4
Interior counties -----	1,929	488	797	530	114	25.3	41.3	27.5	5.9
<i>Central California</i> ----	19,091	5,871	5,729	6,967	524	30.8	30.0	36.5	2.7
San Francisco -----	6,666	2,004	1,497	2,943	222	30.1	22.5	44.1	3.3
Other bay counties -----	4,569	1,332	1,330	1,635	72	30.5	30.4	37.4	1.7
Coast counties -----	2,279	657	813	785	24	28.8	35.7	34.4	1.1
Interior counties -----	5,777	1,878	2,069	1,604	206	32.5	36.1	27.8	3.6
<i>Southern California</i> ----	13,393	2,768	7,018	3,170	437	20.7	52.4	23.7	3.2
Los Angeles -----	9,238	1,749	5,008	2,213	268	18.9	54.2	24.0	2.9
Other counties -----	4,155	1,019	2,010	957	169	24.5	48.4	23.0	4.1
<i>Northern and Central California</i> -----	23,108	6,907	7,279	8,234	688	29.9	31.5	35.6	3.0
Coast counties -----	15,402	4,541	4,393	6,100	368	29.5	28.5	39.6	2.4
Interior counties -----	7,706	2,366	2,886	2,134	320	30.7	37.4	27.7	4.2
Metropolitan area -----	11,035	3,336	2,827	4,573	294	30.2	25.6	41.5	2.7
Rural counties -----	12,073	3,571	4,452	3,656	394	29.6	36.9	30.3	3.2
1912.									
THE STATE -----	34,732	9,143	13,617	10,936	1,036	26.3	39.2	31.5	3.0
<i>Northern California</i> ----	3,819	1,034	1,473	1,170	142	27.1	38.6	30.6	3.7
Coast counties -----	2,066	544	731	727	64	26.3	35.4	35.2	3.1
Interior counties -----	1,753	490	742	443	78	28.0	42.3	25.3	4.4
<i>Central California</i> ----	18,430	5,660	5,549	6,752	469	30.7	30.1	36.6	2.6
San Francisco -----	6,387	2,005	1,358	2,845	179	31.4	21.3	44.5	2.8
Other bay counties -----	4,256	1,294	1,295	1,601	66	30.4	30.4	37.6	1.6
Coast counties -----	2,194	676	817	672	29	30.8	37.3	30.6	1.3
Interior counties -----	5,503	1,685	2,079	1,634	195	30.1	37.2	29.2	3.5
<i>Southern California</i> ----	12,483	2,449	6,595	3,014	425	19.6	52.8	24.2	3.4
Los Angeles -----	8,480	1,515	4,614	2,087	264	17.9	54.4	24.6	3.1
Other counties -----	4,003	934	1,981	927	161	23.3	49.5	23.2	4.0
<i>Northern and Central California</i> -----	22,249	6,694	7,022	7,922	611	30.1	31.6	35.6	2.7
Coast counties -----	14,903	4,519	4,201	5,845	338	30.3	28.2	39.2	2.3
Interior counties -----	7,346	2,175	2,821	2,077	273	29.6	38.4	28.3	3.7
Metropolitan area -----	10,643	3,299	2,653	4,446	245	31.0	24.9	41.8	2.3
Rural counties -----	11,606	3,395	4,369	3,476	366	29.3	37.6	29.9	3.2

Table 16 shows that of the 36,501 white decedents in California in 1913 and the 34,732 in 1912, those who were born in other states totaled 14,297 and 13,617; the foreign born numbered 11,404 and 10,936; the native Californians were 9,675 and 9,143; and the nativity was unknown for 1,125 in 1913 and 1,036 in 1912. The per cent distribution of white decedents by nativity was as follows for 1913 and 1912, respectively: Other states, 39.2 each year; foreign countries, 31.2 and 31.5; California, 26.5 and 26.3; and unknown, 3.1 and 3.0. It may be added that for 1909 to 1913 the annual average per cents were as follows: Other American, 38.1; foreign, 31.7; Californian, 27.2; and unknown, 3.0.

The proportion of California decedents born in other states is very high for the counties south of Tehachapi, especially Los Angeles, the per cents being 52.4 and 52.8 for Southern California in 1913 and 1912, and no less than 54.2 and 54.4, respectively, for Los Angeles. On the other hand, the per cents born in other states were only 31.5 and 31.6 in 1913 and 1912 for the counties north of Tehachapi, being 38.6 each year for Northern California and merely 30.0 and 30.1 for Central California. The per cents born elsewhere in the United States than California were much less for the metropolitan area (25.6 and 24.9 than for the rural counties (36.9 and 37.6), and were also much less for San Francisco (22.5 and 21.3) than for the other bay counties (30.4 each year).

The proportion of foreign born decedents is particularly great only in Central California, where the per cent foreign born was 36.5 in 1913 and 36.6 in 1912, the corresponding per cents being only 31.5 and 30.6 for Northern California and merely 23.7 and 24.2 for Southern California. The per cent foreign born was 35.6 each year for Northern and Central California together, being 41.5 in 1913 and 41.8 in 1912 for the urban territory as compared with 30.3 and 29.9 for the rural districts. The per cent of foreign born decedents in San Francisco was as great as 44.1 in 1913 and 44.5 in 1912 against 37.4 and 37.6, respectively, for the group of suburban counties.

The per cent of native Californians among white decedents was greatest each year for Central California, 30.8 in 1913 and 30.7 in 1912, and next for Northern California, 25.8 and 27.1, the per cents being 29.9 and 30.1 for both of these main divisions together in contrast with only 20.7 and 19.6 for Southern California as a whole. The per cents born in California were somewhat higher for the metropolitan area, 30.2 and 31.0, than for the rural counties north of Tehachapi, 29.6 and 29.3 in 1913 and 1912, respectively.

Nativity and Cause of Death.—The following table gives numbers and per cent showing the nativity of Caucasians dying from certain principal causes in California in 1913 and 1912:

TABLE 17.—White Decedents Dying from Certain Principal Causes Classified by Nativity, with Per Cents, for California: 1913 and 1912.

Cause of death	White decedents					Per cent				
	Total	Born in California	Born in other states	Foreign born	Unknown	Born in California	Born in other states	Foreign born	Unknown	
1913.										
ALL CAUSES.....	36,501	9,675	14,297	11,404	1,125	26.5	39.2	31.2	8.1	
Typhoid fever.....	399	128	149	115	7	32.1	37.3	28.8	1.8	
Malarial fever.....	68	30	21	16	1	44.1	30.9	23.5	1.5	
Smallpox.....	15	5	9	1	1	33.3	60.0	-----	6.7	
Measles.....	146	117	20	9	-----	80.1	13.7	6.2	-----	
Scarlet fever.....	75	45	22	7	1	60.0	29.4	9.3	1.3	
Whooping-cough.....	120	104	11	5	-----	86.7	9.2	4.1	-----	
Diphtheria and croup.....	179	127	38	11	3	71.0	21.2	6.1	1.7	
Influenza.....	216	34	124	56	2	15.8	57.4	25.9	0.9	
Plague.....	1	-----	1	-----	-----	-----	100.0	-----	-----	
Other epidemic diseases.....	173	50	78	49	1	28.9	42.2	28.3	0.6	
Tuberculosis of lungs.....	4,113	1,004	1,708	1,304	97	24.4	41.5	31.7	2.4	
Tuberculosis of other organs.....	796	350	240	155	11	49.0	30.1	19.5	1.4	
Cancer.....	2,497	277	1,204	987	29	11.1	48.2	39.5	1.2	
Other general diseases.....	1,662	432	663	516	51	26.0	39.9	31.0	3.1	
Meningitis.....	377	209	115	47	6	55.4	30.5	12.5	1.6	
Other diseases of nervous system.....	3,190	410	1,636	1,091	53	12.8	51.3	34.2	1.7	
Diseases of circulatory system.....	6,071	486	2,911	2,490	194	8.0	47.9	40.9	3.2	
Pneumonia and broncho-pneumonia.....	2,754	966	839	860	69	35.8	30.5	31.2	2.5	
Other diseases of respiratory system.....	825	175	333	300	17	21.2	40.4	36.4	2.0	
Diarrhea and enteritis, under 2 years.....	1,162	1,112	30	17	3	95.7	2.6	1.5	0.2	
Diarrhea and enteritis, 2 years and over.....	343	104	140	93	6	30.3	40.8	27.1	1.8	
Other diseases of digestive system.....	1,889	441	794	609	45	23.4	42.0	32.2	2.4	
Bright's disease and nephritis.....	2,288	310	1,125	802	51	13.5	49.2	35.1	2.2	
Childbirth.....	367	109	143	109	6	29.7	39.0	29.7	1.6	
Diseases of early infancy.....	1,334	1,330	2	1	1	99.7	0.1	0.1	0.1	
Suicide.....	795	111	296	270	118	14.0	37.2	34.0	14.8	
Other violence.....	2,042	691	947	977	327	23.5	32.2	33.2	11.1	
All other causes.....	1,704	458	703	518	25	26.9	41.2	30.4	1.5	
1912.										
ALL CAUSES.....	34,732	9,143	13,617	10,936	1,036	26.3	39.2	31.5	3.0	
Typhoid fever.....	416	159	128	119	10	38.2	30.8	28.6	2.4	
Malarial fever.....	89	23	37	20	4	31.4	41.6	22.5	4.5	
Smallpox.....	15	4	7	1	3	26.7	46.7	6.6	20.0	
Measles.....	130	109	15	6	-----	83.9	11.5	4.6	-----	
Scarlet fever.....	34	18	13	3	-----	53.0	38.2	8.8	-----	
Whooping-cough.....	178	153	15	5	-----	88.8	8.4	2.8	-----	
Diphtheria and croup.....	157	116	36	5	-----	73.9	22.9	3.2	-----	
Influenza.....	140	25	32	33	-----	17.8	56.6	23.6	-----	
Other epidemic diseases.....	177	53	77	42	5	30.0	43.5	23.7	2.8	
Tuberculosis of lungs.....	3,949	959	1,663	1,233	89	24.3	42.2	31.2	2.3	
Tuberculosis of other organs.....	734	359	210	156	9	48.9	28.6	21.3	1.2	
Cancer.....	2,245	239	1,087	891	28	10.6	48.4	39.7	1.3	
Other general diseases.....	1,541	373	630	469	64	24.5	40.9	30.4	4.2	
Meningitis.....	283	171	74	34	4	60.4	26.2	12.0	1.4	
Other diseases of nervous system.....	2,857	430	1,387	980	60	15.1	48.5	34.3	2.1	
Diseases of circulatory system.....	6,148	509	3,012	2,476	151	8.3	49.0	40.3	2.4	
Pneumonia and broncho-pneumonia.....	2,768	963	925	820	65	34.6	33.4	29.6	2.4	
Other diseases of respiratory system.....	883	171	303	345	14	20.5	36.4	41.4	1.7	
Diarrhea and enteritis, under 2 years.....	962	940	28	14	-----	95.7	2.9	1.4	-----	
Diarrhea and enteritis, 2 years and over.....	333	90	146	93	4	27.0	43.9	27.9	1.2	
Other diseases of digestive system.....	1,870	437	719	678	36	23.4	38.4	36.3	1.9	
Bright's disease and nephritis.....	2,079	243	1,081	705	45	11.9	52.0	33.9	2.2	
Childbirth.....	347	94	145	104	4	27.1	41.8	30.0	1.1	
Diseases of early infancy.....	1,300	1,297	3	-----	-----	99.8	0.2	-----	-----	
Suicide.....	758	113	261	260	124	14.9	34.4	34.3	16.4	
Other violence.....	2,754	667	860	926	301	24.2	31.2	33.6	11.0	
All other causes.....	1,615	413	668	518	16	25.6	41.3	32.1	1.0	

The per cents born in California were above the general averages of 26.5 in 1913 and 26.3 in 1912 for deaths from the following important causes: Early infancy, 99.7 and 99.8; diarrhea and enteritis, under 2 years, 95.7 each year; whooping-cough, 86.7 and 88.8; measles, 80.1 and 83.9; diphtheria and croup, 71.0 and 73.9; scarlet fever, 60.0 and 53.0; meningitis, 55.4 and 60.4; tuberculosis other than pulmonary, 49.0 and 48.9; pneumonia and broncho-pneumonia, 35.8 and 34.6; typhoid fever, 32.1 and 38.2; malarial fever, 44.1 and 31.4; diarrhea and enteritis, 2 years and over, 30.3 and 27.0; and childbirth, 29.7 and 27.1.

The per cents born in other states were above the general average of 39.2 in both 1913 and 1912 for deaths from the following notable causes: Influenza, 57.4 and 58.6; diseases of the nervous system other than meningitis, 51.3 and 48.5; Bright's disease and nephritis, 49.2 and 52.0; cancer, 48.2 and 48.4; diseases of the circulatory system, 47.9 and 49.0; tuberculosis of the lungs, 41.5 and 42.2; diarrhea and enteritis, 2 years and over, 40.8 and 43.9; and general diseases other than tuberculosis and cancer, 39.9 and 40.9.

The per cents foreign born were above the general averages of 31.2 and 31.5 in 1913 and 1912, respectively, for deaths from the following causes: Diseases of the circulatory system, 40.9 and 40.3; cancer, 39.5 and 39.7; diseases of the respiratory system other than pneumonia, 36.4 and 41.4; Bright's disease and nephritis, 35.1 and 33.9; diseases of the nervous system other than meningitis, 34.2 and 34.3; suicide, 34.0 and 34.3; other violence, 33.2 and 33.6; and diseases of the digestive system other than diarrhea, 32.2 and 36.3.

The per cents of unknown nativity, 3.1 in 1913 and 3.0 in 1912 for all causes, are very high indeed for suicides, 14.8 and 16.4, as well as for deaths from other violence (drowning, accidental injuries, etc.), 11.1 and 11.0, respectively.

Age Periods.—The following table gives for the several geographic divisions in 1913 and 1912 the classification of decedents by nine selected age periods, representing in a rough way, infancy, childhood, youth, five productive ages, and old age:

TABLE 18.—Deaths Classified by Age Periods, for Geographic Divisions: 1913 and 1912.

Geographic divisions	Deaths									
	All ages	Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
1913.										
THE STATE	38,509	4,336	1,681	1,048	2,273	3,762	4,215	4,670	5,087	11,627
<i>Northern California</i>	4,267	368	123	119	232	363	389	480	571	1,642
Coast counties	2,187	158	63	66	131	183	208	243	275	860
Interior counties	2,080	210	60	53	101	180	181	217	293	782
<i>Central California</i>	20,302	2,288	839	530	1,139	1,981	2,313	2,642	2,693	5,877
San Francisco	7,002	630	279	151	349	748	964	1,090	1,007	1,784
Other bay counties	4,602	548	155	116	256	393	459	580	640	1,455
Coast counties	2,431	253	80	50	120	185	206	266	312	969
Interior counties	6,267	857	325	213	414	655	684	706	734	1,679
<i>Southern California</i>	14,080	1,680	669	399	902	1,418	1,513	1,568	1,773	4,106
Los Angeles	9,705	1,097	442	278	618	970	1,043	1,096	1,264	2,897
Other counties	4,325	583	227	121	284	448	470	472	509	1,211
<i>Northern and Central California</i>	24,569	2,656	962	649	1,371	2,344	2,702	3,102	3,264	7,519
Coast counties	16,222	1,589	577	383	856	1,509	1,837	2,179	2,234	5,058
Interior counties	8,347	1,067	385	266	515	835	865	923	1,030	2,461
Metropolitan area	11,604	1,178	434	267	605	1,141	1,423	1,670	1,647	3,239
Rural counties	12,965	1,478	528	382	766	1,203	1,279	1,432	1,617	4,280
1912.										
THE STATE	35,709	3,942	1,616	977	2,252	3,636	4,062	4,489	4,747	10,988
<i>Northern California</i>	4,029	308	140	127	269	341	412	430	494	1,506
Coast counties	2,156	141	65	76	149	194	215	233	260	822
Interior counties	1,874	167	75	51	120	147	197	197	234	686
<i>Central California</i>	19,653	2,218	894	491	1,137	1,904	2,170	2,542	2,598	5,699
San Francisco	6,766	699	319	129	337	672	867	1,047	969	1,727
Other bay counties	4,470	526	202	118	277	390	423	534	567	1,433
Coast counties	2,332	260	69	62	130	176	217	257	286	875
Interior counties	6,085	733	304	182	393	666	663	704	776	1,664
<i>Southern California</i>	13,027	1,416	582	359	846	1,391	1,480	1,517	1,655	3,781
Los Angeles	8,800	909	376	243	555	962	1,036	1,055	1,122	2,632
Other counties	4,137	507	206	116	291	429	444	462	533	1,149
<i>Northern and Central California</i>	23,682	2,526	1,034	618	1,406	2,245	2,582	2,972	3,092	7,207
Coast counties	15,723	1,626	655	385	893	1,432	1,722	2,071	2,062	4,857
Interior counties	7,959	900	379	233	513	813	860	901	1,010	2,350
Metropolitan area	11,236	1,225	521	247	614	1,062	1,290	1,581	1,536	3,180
Rural counties	12,446	1,301	513	371	792	1,183	1,292	1,391	1,556	4,047

Table 18 shows that of the 38,599 deaths in 1913 and the 36,709 in 1912, those occurring at the five productive age periods from 15 to 64 totaled altogether 19,957 and 19,186, respectively; those at the period of old age, 65 years and over, totaled 11,627 and 10,988; those in infancy or the first year of life numbered 4,336 and 3,942; those in childhood, 1 to 4 years, numbered 1,631 and 1,616; and those in youth, 5 to 14 years, numbered 1,048 and 977. The death totals at successive productive ages were as follows in 1913 and 1912, respectively: 15 to 24 years, 2,273 and 2,252; 25 to 34 years, 3,762 and 3,636; 35 to 44 years, 4,215 and 4,062; 45 to 54 years, 4,670 and 4,489; and 55 to 64 years, 5,037 and 4,747.

To facilitate comparisons between geographic divisions, the absolute numbers in the preceding table have been reduced to per cents, as given in Table 19.

TABLE 19.—Per Cent Distribution of Deaths, by Age Periods, for Geographic Divisions: 1913 and 1912.

Geographic division	Per cent of deaths																	
	Under 1 year		1 to 4 years		5 to 14 years		15 to 24 years		25 to 34 years		35 to 44 years		45 to 54 years		55 to 64 years		65 years and over	
	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912
THE STATE	11.2	10.8	4.2	4.4	2.7	2.7	5.9	6.1	9.8	9.9	10.9	11.1	12.1	12.2	13.1	12.9	30.1	29.9
Northern California	8.6	7.6	2.9	3.5	2.8	3.1	5.4	6.7	8.5	8.5	9.1	10.2	10.8	10.7	13.4	12.3	38.5	37.4
Coast counties	7.2	6.5	2.9	3.0	3.0	3.5	6.0	6.9	8.4	9.0	9.5	10.0	11.1	10.8	12.6	12.1	39.3	38.2
Interior counties	10.1	8.9	2.9	4.0	2.5	2.7	4.9	6.4	8.7	7.9	8.7	10.5	10.4	10.5	14.2	12.5	37.6	36.6
Central California	11.3	11.3	4.1	4.6	2.6	2.5	5.6	5.8	9.8	9.7	11.4	11.0	13.0	12.9	13.3	13.2	28.9	29.0
San Francisco	9.0	10.4	4.0	4.7	2.1	1.9	5.0	5.0	10.7	9.9	12.7	12.9	15.6	15.5	14.4	14.3	25.5	25.5
Other bay counties	11.9	11.8	3.4	4.5	2.5	2.6	5.6	6.2	8.5	8.7	10.0	9.5	12.6	11.9	13.9	12.7	31.6	32.1
Coast counties	10.4	11.1	3.3	3.0	2.1	2.7	4.9	5.6	7.6	7.5	8.5	9.3	10.9	11.0	12.8	12.3	39.5	37.5
Interior counties	13.7	12.0	5.2	5.0	3.4	3.0	6.3	6.5	10.4	10.9	10.9	11.3	11.6	11.7	12.8	23.8	27.3	
Southern California	12.0	10.9	4.8	4.5	2.8	2.7	6.4	6.5	10.1	10.7	10.8	11.4	11.2	11.6	12.6	12.7	29.3	29.0
Los Angeles	11.8	10.2	4.6	4.2	2.9	2.7	6.4	6.3	10.0	10.8	10.7	11.7	11.3	11.9	13.0	12.6	29.8	29.6
Other counties	13.5	12.2	5.2	5.0	2.8	2.8	6.6	7.0	10.3	10.4	10.9	10.7	10.9	11.2	11.8	12.9	28.0	27.8
Northern and Central California	10.8	10.7	3.9	4.4	2.7	2.6	5.6	5.9	9.5	9.5	11.0	10.9	12.6	12.5	13.3	13.1	30.6	30.4
Coast counties	9.8	10.3	3.5	4.2	2.4	2.4	5.3	5.7	9.3	9.1	11.3	11.0	13.4	13.2	13.8	13.2	31.2	30.9
Interior counties	12.8	11.3	4.6	4.8	3.2	2.9	6.2	6.5	10.0	10.2	10.4	10.8	11.0	11.8	12.3	12.7	29.5	29.5
Metropolitan area	10.2	10.9	3.7	4.6	2.3	2.2	5.2	5.5	9.8	9.4	12.3	11.5	14.4	14.1	14.2	13.7	27.9	28.1
Rural counties	11.4	10.4	4.1	4.1	2.9	3.0	5.9	6.4	9.3	9.5	9.9	10.4	11.0	11.2	12.5	12.5	33.0	32.5

The per cent distribution given in Table 19 shows that the deaths at the five productive age periods from 15 to 64 years totaled 51.8 per cent of all in 1913 and 52.2 per cent in 1912; the deaths at the period of old age, 65 years and over, were 30.1 and 29.9, respectively; the deaths in infancy, or the first year of life, 11.2 and 10.8; the deaths in childhood, 1 to 4 years, 4.2 and 4.4; and the deaths in youth, 5 to 14 years, 2.7 each year. The per cent distribution of total deaths occurring at successive productive ages in 1913 and 1912, respectively, was as follows: 15 to 24 years, 5.9 and 6.1; 25 to 34 years, 9.8 and 9.9; 35 to 44 years, 10.9 and 11.1; 45 to 54 years, 12.1 and 12.2; and 55 to 64 years, 13.1 and 12.9.

The annual average per cents by five age periods covering the whole five years from 1909 to 1913, inclusive, were as follows: Productive ages, 52.4; old age, 29.5; infancy, 11.0; childhood, 4.3; and youth, 2.8.

Data on deaths by the whole nine age periods shown in Tables 18 and 19 are available only for the three years last past, the annual average per cents for 1911 to 1913 being as follows: Under 1 year, 10.8; 1 to 4 years, 4.2; 5 to 14 years, 2.7; 15 to 24 years, 6.2; 25 to 34 years, 9.9; 35 to 44 years, 11.2; 45 to 54 years, 12.1; 55 to 64 years, 13.0; and 65 years and over, 29.9.

It appears from Table 19, moreover, that 44.7 per cent of all deaths in 1913, and 45.0 per cent in 1912, occurred at under 45 years, so that 55.3 and 55.0 per cent of the deaths in 1913 and 1912, respectively, were at ages of 45 years and over.

Furthermore, the median age of California decedents, half the decedents being younger and half of them older than the age here given, was 49.36 years for 1913 and 49.16 years for 1912 as compared with 48.83 years for 1911.

Reference to Table 19 indicates, as to geographic divisions, that the per cent of deaths in infancy, or the first year of life, was very low in both 1913 and 1912 for Northern California, but was rather high for Central as well as Southern California, the per cents varying somewhat irregularly among the minor geographic divisions. The same observation may also be made as to the proportion of deaths in childhood, 1 to 4 years, while for deaths in youth, 5 to 14 years, no very marked variations appear between the several geographic divisions.

In regard to deaths at successive productive ages covering the whole period from 15 to 64 years it seems that at the ages of 15 to 24, as well as at 25 to 34 and 35 to 44 years, the per cent of deaths is relatively high for Southern California, probably on account of the great mortality from tuberculosis at these ages in this section. At 45 to 54 years as well as at 55 to 64 years, however, the per cent of deaths is particularly high for Central California, especially San Francisco. In fact, for the whole period from 35 to 64 years the per cents are much greater for the metropolitan area than for the rural counties north of Tehachapi.

The proportion of deaths at the period of old age, 65 years and over, is especially great only for Northern California among the main geographic divisions. However, among minor geographic divisions the per cent of deaths at 65 years and over was above the general average

each year not only for both the coast and interior counties of Northern California, but also for the coast counties of Central California and, in less degree, for the bay counties other than San Francisco.

Age and Cause of Death.—Tables 20 and 21 on the following pages show for California in 1913 and 1912 first, the number of deaths from certain principal causes classified by nine age periods, and second, the per cent distribution, by nine age periods, of the deaths from each of these causes.

TABLE 20.—Deaths from Certain Principal Causes Classified by Age Periods, for California: 1913 and 1912.

Cause of death	All ages	Deaths.									
		Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over	
1913											
ALL CAUSES	38,599	4,330	1,631	1,048	2,273	3,762	4,215	4,670	5,087	11,627	
Typhoid fever	436	2	13	44	108	111	71	42	24	21	
Malarial fever	77	10	9	7	4	12	5	4	9	17	
Smallpox	15	1	2	2	3	5	2	2	2	2	
Measles	154	44	82	17	6	1	1	1	1	2	
Scarlet fever	85	3	44	32	3	1	1	1	1	1	
Whooping-cough	128	66	55	6	6	6	6	6	6	6	
Diphtheria and croup	186	8	94	71	2	5	2	2	1	1	
Influenza	220	7	8	4	7	5	10	13	30	136	
Plague	2	2	1	1	1	1	1	1	1	1	
Other epidemic diseases	180	23	8	5	5	11	17	23	22	66	
Tuberculosis of lungs	4,536	33	48	78	732	1,189	960	668	436	319	
Tuberculosis of other organs	836	102	179	100	111	133	103	63	37	35	
Cancer	2,565	2	7	12	32	82	270	541	661	958	
Other general diseases	1,733	116	54	74	94	173	292	306	305	349	
Meningitis	405	82	99	64	48	23	35	22	21	11	
Diseases of nervous system	3,315	64	49	53	73	110	252	476	604	1,634	
Diseases of circulatory system	6,281	12	7	54	96	263	442	760	1,157	3,430	
Pneumonia and broncho-pneumonia	2,938	574	264	77	96	171	272	293	328	863	
Other diseases of respiratory system	868	90	41	20	20	29	52	62	94	430	
Diarrhea and enteritis, under 2 years	1,270	1,076	194	96	26	10	12	29	34	138	
Diarrhea and enteritis, 2 years and over	369	118	65	77	117	199	249	324	294	552	
Other diseases of digestive system	1,995	25	18	23	65	148	240	352	450	1,071	
Bright's disease and nephritis	2,392	25	18	23	65	148	240	352	450	1,071	
Childbirth	395	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	
Diseases of early infancy	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	1,444	
Suicide	887	72	166	193	429	634	514	426	304	896	
Other violence	3,133	390	31	9	34	66	90	83	80	1,021	
All other causes	1,774	390	31	9	34	66	90	83	80	1,021	
1912											
ALL CAUSES	36,709	3,942	1,616	977	2,252	3,636	4,062	4,459	4,747	10,988	
Typhoid fever	454	1	35	53	122	106	61	89	19	18	
Malarial fever	101	7	12	9	7	6	15	7	16	22	
Smallpox	16	1	1	2	1	2	1	2	2	2	
Measles	134	29	75	16	7	4	4	2	1	1	
Scarlet fever	84	2	17	11	2	2	2	2	2	2	
Whooping-cough	193	110	72	11	2	2	1	1	1	1	

TABLE 21.—Per Cent Distribution, by Age Periods, of Deaths from Certain Principal Causes, for California: 1913 and 1912.

Cause of death	Per cent of deaths																				
	1 year		1 to 4 years		5 to 14 years		15 to 24 years		25 to 34 years		35 to 44 years		45 to 54 years		55 to 64 years		65 years and over				
	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913		
ALL CAUSES	11.2	10.8	4.2	4.4	2.7	2.7	5.9	6.1	9.8	9.9	10.9	11.1	12.1	12.2	13.1	12.9	30.1	29.9			
Typhoid fever	0.4	0.2	3.0	7.7	10.1	11.7	24.8	26.9	25.5	23.3	16.3	13.4	9.6	8.6	5.5	4.2	4.8	4.0			
Malarial fever	13.0	6.9	11.7	11.9	9.1	8.9	5.2	6.9	15.6	5.9	6.5	14.9	5.2	6.9	11.6	15.9	22.1	21.8			
Smallpox			6.7	6.3	13.4	12.5	20.0	18.8	33.3	31.2	18.7	13.3	12.5	13.3							
Measles	28.6	21.6	53.2	56.0	11.0	11.9	3.9	5.2	0.7	3.0	0.7	1.5	1.2				1.3				
Scarlet fever	3.5	5.9	51.8	50.0	37.6	32.3	3.5	5.9	1.2	5.9	1.2										
Whooping-cough	51.5	57.0	43.0	37.3	4.7	4.2															
Diphtheria and croup	4.3	3.8	50.5	49.4	38.2	38.6	1.1	4.4	2.7	0.7	1.1	2.5	1.1	0.6	0.5		0.8	1.0			
Influenza	3.2	11.0	3.6	2.7	1.8	2.0	3.2	1.4	2.3	2.7	4.6	1.4	5.9	6.2	13.6	8.2	61.8	64.4			
Plague							50.0														
Other epidemic diseases	12.8	12.4	4.4	9.1	2.8	4.3	2.8	1.1	6.1	4.8	9.4	10.8	12.8	9.1	12.2	11.8	36.7	36.6			
Tuberculosis of lungs	0.8	0.7	1.1	1.0	1.7	1.9	16.9	16.2	26.2	26.3	21.8	22.0	15.2	16.8	10.3	9.3	7.0	6.8			
Tuberculosis of other organs	11.8	10.0	20.7	19.0	11.5	11.6	12.8	14.1	15.4	18.1	11.9	12.7	7.6	6.5	4.3	4.9	4.0	3.1			
Cancer	0.1	0.1	0.3	0.3	0.5	0.3	1.2	0.8	3.2	3.6	10.5	10.9	21.1	20.4	25.8	26.7	37.3	36.9			
Other general diseases	6.7	6.3	3.1	2.5	4.3	3.6	5.4	6.1	10.0	9.7	15.1	15.4	17.7	17.8	17.6	16.2	20.1	22.4			
Meningitis	20.3	23.1	24.4	27.9	15.8	12.0	11.9	10.4	5.7	7.1	8.6	6.5	5.4	6.2	5.2	3.2	2.7	3.6			
Other diseases of nervous system	1.9	2.8	1.5	3.0	1.6	2.4	2.2	2.5	3.3	3.8	7.6	8.6	14.4	13.3	18.2	17.6	49.3	46.0			
Diseases of circulatory system	0.2	0.3	0.1	0.3	0.9	1.3	1.5	2.1	4.2	3.8	7.0	7.1	12.1	12.0	18.4	18.2	56.6	54.9			
Pneumonia and broncho-pneumonia	19.5	18.3	9.0	9.6	2.6	2.3	3.3	3.2	5.8	6.1	9.2	10.0	10.3	11.2	11.4	29.4	30.6				
Other diseases of respiratory system	10.4	11.5	4.7	5.7	2.3	1.7	2.3	1.4	3.3	3.4	6.0	4.5	7.2	7.8	10.8	10.6	53.0	53.4			
Diarrhea and enteritis, under 2 years	84.7	83.6	15.3	16.4																	
Diarrhea and enteritis, 2 years and over			25.7	23.7	7.0	3.1	2.7	4.2	3.3	2.8	7.9	6.4	6.5	10.0	9.5	10.8	37.4	39.0			
Other diseases of digestive system	5.9	4.7	3.3	3.1	3.8	3.4	5.9	6.7	10.0	9.6	12.5	13.6	16.2	16.4	14.7	16.4	27.7	26.1			
Bright's disease and nephritis	1.0	0.7	0.8	0.7	1.0	1.0	2.7	2.5	6.2	6.1	10.0	10.1	14.7	16.2	18.8	20.0	44.8	43.1			
Childbirth							26.8	29.8	47.9	42.7	25.3	27.5									
Diseases of early infancy	100.0	100.0																			
Suicide					0.1	9.7	8.2	22.7	24.1	24.8	24.6	19.1	24.2	18.3	12.3	10.4	9.2				
Other violence	2.3	1.9	5.3	5.5	6.2	5.8	13.7	13.4	20.2	21.4	16.4	17.1	13.6	13.7	9.7	8.7	12.6	12.8			
All other causes	20.3	17.5	1.7	2.1	0.5	1.3	1.9	2.8	3.7	4.8	5.1	4.8	4.7	4.9	4.5	4.6	57.6	57.2			

From Table 21, giving the per cent distribution, it appears that the per cents of deaths in infancy, or the first year of life, were above the general averages of 11.2 and 10.8 in 1913 and 1912, respectively, for deaths from the following causes: Early infancy (premature birth, congenital debility, etc.), 100.0 per cent each year; diarrhea and enteritis, under 2 years, 84.7 and 83.6; whooping cough, 51.5 and 57.0; measles, 28.6 and 21.6; meningitis, 20.3 and 23.1; and pneumonia and broncho-pneumonia, 19.5 and 18.3.

The per cents of deaths in childhood, 1 to 4 years, were above the general averages of 4.2 and 4.4 in 1913 and 1912 for deaths from the following causes: Measles, 53.2 and 56.0; scarlet fever, 51.8 and 50.0; diphtheria and croup, 50.5 and 49.4; whooping-cough, 43.0 and 37.3; meningitis, 24.4 and 27.9; diarrhea and enteritis, 2 years and over, 25.7 and 23.7; tuberculosis of other organs than the lungs, 20.7 and 19.0; diarrhea and enteritis, under 2 years, 15.3 and 16.4; malarial fever, 11.7 and 11.9; pneumonia and broncho-pneumonia, 9.0 and 9.6; other diseases of the respiratory system, 4.7 and 5.7; and miscellaneous violence, 5.3 and 5.5.

The per cent of deaths in youth, 5 to 14 years, was above the general average of 2.7 each year for deaths from the following causes: Diphtheria and croup, 38.2 in 1913 and 38.6 in 1912; scarlet fever, 37.6 and 32.3; meningitis, 15.8 and 12.0; tuberculosis other than pulmonary, 11.5 and 11.6; measles, 11.0 and 11.9; typhoid fever, 10.1 and 11.7; malarial fever, 9.1 and 8.9; miscellaneous violence (accidental injuries, etc.), 6.2 and 5.8; whooping-cough, 4.7 and 4.2; diarrhea and enteritis, 2 years and over, 7.0 and 3.1; other diseases of the digestive system, 3.8 and 3.4; and general diseases other than tuberculosis and cancer, 4.3 and 3.6.

The proportion of deaths occurring at 15 to 24 years exceeded the general averages of 5.9 and 6.1 for deaths from important causes as follows: Childbirth, 26.8 and 29.8; typhoid fever, 24.8 and 26.9; tuberculosis of the lungs, 15.9 and 16.2; tuberculosis of other organs, 12.8 and 14.1; miscellaneous violence, 13.7 and 13.4; suicide, 9.7 and 8.2; and diseases of the digestive system other than diarrhea, 5.9 and 6.7.

The proportion of deaths occurring at 25 to 34 years surpassed the general averages of 9.8 and 9.9 for deaths from the following important causes: Childbirth, 47.9 and 42.7; tuberculosis of the lungs, 26.2 and 26.3; typhoid fever, 25.5 and 23.3; suicide, 22.7 and 24.4; other violence, 20.2 and 21.1; and tuberculosis other than pulmonary, 15.4 and 18.1.

The proportion of deaths occurring at 35 to 44 years exceeded the general averages of 10.9 and 11.1 for deaths from the following causes: Childbirth, 25.3 and 27.5; suicide, 24.8 and 24.6; pulmonary tuberculosis, 21.8 and 22.0; miscellaneous violence, 16.4 and 17.1; typhoid fever, 16.3 and 13.4; general diseases other than tuberculosis and cancer (*i. e.*, diabetes, alcoholism, etc.), 15.1 and 15.4; diseases of the digestive system other than diarrhea, 12.5 and 13.6; and tuberculosis other than pulmonary, 11.9 and 12.7.

The proportion of deaths occurring at 45 to 54 years surpassed the general averages of 12.1 and 12.2 for deaths from the following important causes: Cancer, 21.1 and 20.4; suicide, 19.1 and 21.2; general diseases other than tuberculosis and cancer, 17.7 and 17.8; diseases of the digestive system other than diarrhea, 16.2 and 16.4; pulmonary tuberculosis, 15.2 and 15.8; Bright's disease and nephritis, 14.7 and

16.2; diseases of the nervous system other than meningitis, 14.4 and 13.3; and miscellaneous violence, 13.6 and 13.7.

The proportion of deaths occurring at 55 to 64 years exceeded the general averages of 13.1 and 12.9 for deaths from the following causes: Cancer, 25.8 and 26.7; Bright's disease and nephritis, 18.8 and 20.0; diseases of the circulatory system, 18.4 and 18.2; diseases of the nervous system other than meningitis, 18.2 and 17.6; general diseases other than tuberculosis and cancer, 17.6 and 16.2; and diseases of the digestive system other than diarrhea, 14.7 and 16.4.

The per cents of deaths at the period of old age, 65 years and over, were above the general averages of 30.1 and 29.9 in 1913 and 1912 for deaths from the following important causes: Influenza, 61.8 and 64.4; miscellaneous causes, including "old age" or senility, 57.6 and 57.2; diseases of the circulatory system, 55.6 and 54.9; diseases of the respiratory system other than pneumonia, 53.0 and 53.4; diseases of the nervous system other than meningitis, 49.3 and 46.0; Bright's disease and nephritis, 44.8 and 42.7; diarrhea and enteritis, 2 years and over, 37.4 and 39.0; and cancer, 37.3 and 36.9.

MARITAL CONDITION OF DECEDENTS.

Geographic Divisions.—Table 22 presents, by numbers and per cents, the marital condition of male and female decedents aged 15 years and over for the several geographic divisions in 1913 alone, children under 15 years of age being excluded from the analysis of decedents according to marital condition.

TABLE 22.—Deaths of Males and Females 15 Years and Over Classified by Marital Condition, with Per Cents, for Geographic Divisions: 1913.

Sex and geographic division	Deaths 15 years and over						Per cent				
	Total	Single	Married	Widowed	Divorced	Unknown	Single	Married	Widowed	Divorced	Unknown
Males.											
THE STATE	19,946	6,448	8,837	2,966	290	1,405	32.3	44.3	14.9	1.5	7.0
Northern California	2,528	939	910	397	48	234	37.1	36.0	15.7	1.9	9.3
Coast counties	1,276	457	494	210	23	92	35.8	33.7	16.5	1.8	7.2
Interior counties	1,252	482	416	187	25	142	38.5	38.2	14.9	2.0	11.4
Central California	10,598	3,641	4,479	1,524	175	779	34.4	42.3	14.4	1.6	7.3
San Francisco	3,774	1,387	1,540	538	63	246	36.7	40.8	14.3	1.7	6.5
Other bay counties	2,264	633	1,114	386	30	101	28.0	49.2	17.0	1.3	4.5
Coast counties	1,249	401	566	208	22	57	32.1	45.3	16.2	1.8	4.6
Interior counties	3,311	1,220	1,259	397	60	375	36.9	38.0	12.0	1.8	11.3
Southern California	6,820	1,868	3,448	1,045	67	392	27.4	50.6	15.3	1.0	5.7
Los Angeles	4,638	1,227	2,400	751	47	213	26.5	51.7	16.2	1.0	4.6
Other counties	2,182	641	1,048	294	20	179	29.4	48.0	13.5	0.9	8.2
Northern and Central California	13,126	4,580	5,389	1,921	223	1,013	34.9	41.1	14.6	1.7	7.7
Coast counties	8,563	2,878	3,714	1,337	138	496	33.6	43.4	15.6	1.6	5.8
Interior counties	4,563	1,702	1,675	584	85	517	37.3	36.7	12.8	1.9	11.3
Metropolitan area	6,038	2,020	2,654	924	93	347	33.5	44.0	15.3	1.5	5.7
Rural counties	7,088	2,560	2,735	997	130	666	36.1	38.6	14.1	1.8	9.4
Females.											
THE STATE	11,638	1,427	5,579	4,322	150	160	12.3	47.9	37.1	1.3	1.4
Northern California	1,129	131	502	454	13	29	11.6	44.5	40.2	1.1	2.6
Coast counties	624	90	276	239	4	15	14.4	44.2	38.3	0.7	2.4
Interior counties	505	41	226	215	9	14	8.1	44.7	42.6	1.8	2.8
Central California	6,047	727	2,892	2,273	90	65	12.0	47.8	37.6	1.5	1.1
San Francisco	2,168	278	993	837	41	16	12.8	46.0	38.6	1.9	0.7
Other bay counties	1,519	168	660	654	25	12	11.1	48.4	43.1	1.6	0.8
Coast counties	799	110	392	278	9	10	13.8	49.1	34.8	1.1	1.2
Interior counties	1,561	171	844	504	15	27	10.9	54.1	32.3	1.0	1.7
Southern California	4,462	569	2,185	1,595	47	66	12.7	49.0	35.7	1.1	1.5
Los Angeles	3,250	418	1,596	1,153	38	45	12.8	49.1	35.5	1.2	1.4
Other counties	1,212	151	589	442	9	21	12.5	48.6	36.5	0.7	1.7
Northern and Central California	7,176	858	3,394	2,727	103	94	12.0	47.3	38.0	1.4	1.3
Coast counties	5,110	646	2,324	2,008	79	53	12.6	45.5	39.3	1.6	1.0
Interior counties	2,066	212	1,070	719	24	41	10.2	51.8	34.8	1.2	2.0
Metropolitan area	3,687	446	1,656	1,491	66	28	12.1	44.9	40.4	1.8	0.8
Rural counties	3,489	412	1,738	1,236	37	66	11.8	49.8	35.4	1.1	1.9

Exclusive of children under 15 years of age, the male decedents in California in 1913 totaled 19,946, and the females 11,638. The marital condition of the male decedents aged 15 years and over was: Single, 6,448; married, 8,837; widowed, 2,966; divorced, 290; and unknown, 1,405. For the female decedents 15 years and over the distribution was: Single, 1,427; married, 5,579; widowed, 4,322; divorced, 150; and unknown, 160. The per cent distribution by marital condition for male and female decedents, respectively, was as follows: Single, 32.3 and 12.3; married, 44.3 and 47.9; widowed, 14.9 and 37.1; divorced, 1.5 and 1.3; and unknown, 7.0 and 1.4. The proportion married was not far from the same among men as among women (44.3 against

47.9). However, the per cent single was much greater among men than among women (32.3 against 12.3) while, on the other hand, the per cent widowed was much less for men than for women (14.9 against 37.1).

The per cent single among men was much higher for the territory north of Tehachapi than for that to the south, being 37.1 for Northern California and 34.4 for Central California or 34.9 for both together, as compared with only 27.4 for Southern California. The per cent for single men was somewhat less for the metropolitan area (33.5) than for the rural counties north of Tehachapi (36.1), but was much greater for San Francisco (36.7) than for the other bay counties (28.0).

The per cent single among women varies comparatively little for various geographic divisions, being only slightly greater for Southern California (12.7) than for Northern and Central California together (12.0), for the metropolitan area (12.1) than for the rural counties north of Tehachapi (11.8), and for San Francisco (12.8) than for the adjacent suburban counties (11.1).

The proportion of married men among decedents was considerably greater for the territory south of Tehachapi than for that to the north, the per cent being 50.6 for Southern California against 42.3 for Central California and only 36.0 for Northern California, or 41.1 for all north of Tehachapi. The per cent of married men was 44.0 for the metropolitan area against only 38.6 for the rural counties of Northern and Central California. However, the per cent was merely 40.8 for San Francisco as compared with 49.2 for the adjoining bay counties.

The proportion of married women varies relatively little among geographic divisions, the per cent being slightly greater for Southern California (49.0) than for the territory north of Tehachapi (47.3), slightly less for the metropolitan area (44.9) than for the rural counties (49.8), and slightly greater for the metropolis proper (46.0) than for the adjoining suburbs (43.4).

The proportion of widowers among decedents was somewhat greater for the territory south of Tehachapi (15.3) than for that to the north (14.6) as well as for the metropolitan area (15.3) than for the rural counties (14.1), but was much less for San Francisco alone (14.3) than for the group of other bay counties (17.0).

The per cent of widows among decedents was 40.2 for Northern California and 37.6 for Central California, or 38.0 for both together as compared with 35.7 for Southern California. The per cent was 40.4 for the metropolitan area against 35.4 for the rural counties north of Tehachapi, but was only 38.6 for the metropolis proper against 43.1 for the suburban counties.

Causes of Death.—Table 23 presents numbers and per cents showing the deaths from twelve selected causes of males and females 15 years and over classified by marital condition for California as a whole in 1913.

TABLE 23.—Deaths from Selected Causes of Males and Females 15 Years and Over Classified by Marital Condition, with Per Cents, for California: 1913.

Sex and cause of death	Deaths 15 years and over						Per cent				
	Total	Single	Married	Widowed	Divorced	Unknown	Single	Married	Widowed	Divorced	Unknown
Males.											
ALL CAUSES -----	19,946	6,448	8,837	2,966	290	1,405	32.3	44.3	14.9	1.5	7.0
Typhoid fever -----	266	119	118	9	3	17	44.7	44.4	3.4	1.1	6.4
Other epidemic diseases-----	235	68	111	39	1	16	29.0	47.2	16.6	0.4	6.8
Tuberculosis -----	3,299	1,634	1,225	199	38	203	49.5	37.1	6.0	1.2	6.2
Cancer -----	1,229	267	691	203	15	53	21.8	56.2	16.5	1.2	4.3
Diseases of—											
Nervous system -----	1,933	450	1,022	346	34	86	23.2	52.7	17.9	1.8	4.4
Circulatory system -----	3,887	926	1,807	868	64	222	23.8	46.5	22.3	1.7	5.7
Respiratory system -----	1,633	535	719	291	33	115	31.6	42.5	17.2	1.9	6.8
Digestive system -----	1,215	389	592	162	19	53	32.0	48.7	13.3	1.6	4.4
Bright's disease and											
nephritis -----	1,499	381	735	288	19	76	25.4	49.0	19.2	1.3	5.1
Suicide -----	682	236	267	48	17	114	34.6	39.2	7.0	2.5	16.7
Other violence -----	2,286	955	825	140	23	343	41.8	36.1	6.1	1.0	15.0
All other causes -----	1,717	488	725	373	24	107	28.4	42.2	21.7	1.4	6.3
Females.											
ALL CAUSES -----	11,633	1,427	5,579	4,322	150	160	12.3	47.9	37.1	1.3	1.4
Typhoid fever -----	111	32	65	11	1	2	28.8	58.6	9.9	0.9	1.8
Other epidemic diseases-----	206	26	83	85	9	3	12.6	40.3	41.3	4.4	1.4
Tuberculosis -----	1,560	412	910	198	23	17	26.4	58.3	12.7	1.5	1.1
Cancer -----	1,315	123	686	477	16	13	9.3	52.2	36.3	1.2	1.0
Diseases of—											
Nervous system -----	1,371	143	538	661	11	18	10.4	39.3	48.2	0.8	1.3
Circulatory system -----	2,321	182	926	1,160	25	28	7.8	39.9	50.0	1.1	1.2
Respiratory system -----	1,047	111	413	499	6	18	10.6	39.4	47.7	0.6	1.7
Digestive system -----	768	82	387	274	11	14	10.7	50.4	35.7	1.4	1.8
Bright's disease and											
nephritis -----	827	73	400	336	11	7	8.8	48.4	40.6	1.3	0.9
Suicide -----	155	27	89	21	10	8	17.4	57.4	13.5	6.5	5.2
Other violence -----	416	79	199	120	9	9	19.0	47.8	28.8	2.2	2.2
All other causes -----	1,541	137	883	480	18	23	8.9	57.3	31.1	1.2	1.5

It appears from Table 23 that the per cent of single men among decedents was above the general average of 32.3 for deaths from tuberculosis, 49.5; typhoid fever, 44.7; miscellaneous violence, 41.8; and suicide, 34.6.

The per cent single among women was likewise above the general average of 12.3 for these same causes as follows: Typhoid fever, 28.8; tuberculosis, 26.4; miscellaneous violence 19.0; and suicide, 17.4.

The per cent of married men among decedents, as compared with the average of 44.3, was particularly high for the following causes of death: Cancer, 56.2; diseases of the nervous system, 52.7; Bright's disease and nephritis, 49.0; diseases of the digestive system, 48.7; and diseases of the circulatory system, 46.5.

The per cent of married women among decedents, in comparison with the average of 47.9, was especially great for the following causes:

Typhoid fever, 58.6; tuberculosis, 58.3; suicide, 57.4; sundry miscellaneous causes, 57.3; cancer, 52.2; diseases of the digestive system, 50.4; and Bright's disease and nephritis, 48.4.

The per cent of widowers exceeded the average of 14.9 in the following important instances: Diseases of the circulatory system, 22.3; sundry miscellaneous causes, 21.7; Bright's disease and nephritis, 19.2; diseases of the nervous system, 17.9; diseases of the respiratory system, 17.2; and cancer, 16.5.

The per cent of widows surpassed the average of 37.1 in notable cases as follows: Diseases of the circulatory system, 50.0; diseases of the nervous system, 48.2; diseases of the respiratory system, 47.7; and Bright' disease and nephritis, 40.6.

OCCUPATIONS AND CAUSES OF DEATH.

Occupations.—The table below gives, for deaths 15 years and over, the number of men and women for whom some occupation was reported in contrast with those for whom no gainful occupation was shown, the figures being for the whole State in both 1913 and 1912:

TABLE 24.—Deaths 15 Years and Over Classified by Sex and Occupation, with Per Cent by Sex, for California: 1913 and 1912.

	Deaths						Per cent male		Per cent female	
	Total		Male		Female		1913	1912	1913	1912
	1913	1912	1913	1912	1913	1912				
15 YEARS AND OVER	31,584	30,174	19,946	19,001	11,638	11,178	63.2	63.0	36.8	37.0
Occupation reported.....	18,231	17,415	17,045	16,391	1,186	1,024	93.5	94.1	6.5	5.9
No gainful occupation.....	13,353	12,759	2,901	2,610	10,452	10,149	21.7	20.5	78.3	79.5

Exclusive of children under 15 years of age, who would all be without gainful occupation in statistical terminology, the decedents aged 15 years and over totaled 31,584 in 1913 and 30,174 in 1912. The males numbered 19,946 and 19,001 in 1913 and 1912, and the females numbered 11,638 and 11,173, respectively. Among all decedents aged 15 years and over the per cents male were 63.2 in 1913 and 63.0 in 1912, while the per cents female were 36.8 and 37.0, respectively.

Of the decedents 15 years and over for whom occupations were reported (totaling 18,231 and 17,415 in 1913 and 1912, respectively), the males numbered 17,045 in 1913 and 16,391 in 1912 while the females numbered only 1,186 and 1,024, respectively. Among decedents reporting occupations the per cents male in 1913 and 1912 were no less than 93.5 and 94.1 while the per cents female were merely 6.5 and 5.9.

Of the decedents 15 years and over without gainful occupation (totaling 13,353 and 12,759 in 1913 and 1912, respectively), the men were merely 2,901 in 1913 and 2,610 in 1912, while the women (housewives and others not working for wages) were no less than 10,452 and 10,149, respectively. Among decedents without gainful occupation the per cents male in 1913 and 1912, respectively, were only 21.7 and 20.5, while the per cents female were as great as 78.3 and 79.5.

Main Kinds of Occupation.—The following table shows the distribution of male decedents 15 years and over, engaged in the main kinds of occupations, the data being for California in both 1913 and 1912 with additional per cents for 1911:

TABLE 25.—Deaths of Males 15 Years and Over Engaged in Gainful Occupations, Classified by Kind of Occupation, with Per Cents, for California: 1913 and 1912.

Kind of occupation	Males 15 years and over				
	Deaths		Per cent		
	1913	1912	1913	1912	1911
ALL OCCUPATIONS.....	17,045	16,891	100.0	100.0	100.0
Professional	961	939	5.6	5.7	5.0
Clerical and official.....	1,334	1,212	7.8	7.4	6.9
Mercantile and trading.....	1,302	1,303	7.6	8.0	7.2
Public entertainment.....	407	372	2.4	2.3	2.2
Personal service, police and military.....	569	450	3.3	2.7	3.2
Laboring and servant.....	3,597	3,420	21.1	20.9	22.0
Manufacturing and mechanical industry.....	3,486	3,349	20.5	20.4	20.7
Agriculture, transportation, and other outdoor.....	5,278	5,208	31.0	31.8	32.0
All other occupations.....	111	188	0.7	0.8	0.8

For 1913 and 1912, respectively, the male decedents for whom occupations were shown totaled 17,045 and 16,891 and were distributed by main kinds of occupations as follows: Agriculture, transportation and other outdoor pursuits, 5,278 and 5,208 or 31.0 and 31.8 per cent; laboring and servant work, 3,597 and 3,420 or 21.1 and 20.9 per cent; manufacturing and mechanical industry, 3,486 and 3,349 or 20.5 and 20.4 per cent; mercantile and trading occupations, 1,302 and 1,303 or 7.6 and 8.0 per cent; clerical and official positions, 1,334 and 1,212 or 7.8 and 7.4 per cent; professional callings, 961 and 939 or 5.6 and 5.7 per cent; and various minor kinds of occupations, altogether 1,087 and 960 or 6.4 and 5.8 per cent.

Causes of Death and Specific Occupations.—Table 26 presents in detail the per cent distribution, by selected causes, of deaths of males and females 15 years and over classified by occupation for California in both 1913 and 1912. The per cent distribution thus shown is presented not only for the main kinds of occupations but also, under each main kind of occupation, for every specific occupation showing annually at least 50 deaths in the State as a whole. It may be noted that the absolute numbers on which are based the per cents summarized here in Table 26 may be found in Tables 33 and 34, *post*, which are presented for reference among detailed or general tables following this text discussion of deaths.

TABLE 26.—Per Cent Distribution, by Selected Causes, of Deaths of Males and

Occupation (Showing annually at least 50 deaths)	Deaths		Per cent of deaths							
	1913	1912	Typhoid fever		Other epi- demic dis- eases		Tubercu- losis		Cancer	
			1913	1912	1913	1912	1913	1912	1913	1912
15 YEARS AND OVER -----	31,584	30,174	1.2	1.2	1.4	1.3	15.4	15.4	8.0	7.6
Males -----	19,946	19,001	1.3	1.4	1.2	1.1	16.6	16.1	6.2	5.7
All occupations -----	17,045	16,391	1.4	1.5	1.1	1.2	17.2	16.8	6.2	5.9
Professional -----	961	939	1.5	1.0	1.1	0.7	16.3	16.6	6.6	6.9
Architects, artists and teachers of art -----	51	59				1.7	25.5	15.2	3.9	11.8
Clergymen -----	148	109	0.7		2.0		17.6	10.1	6.8	7.3
Engineers and surveyors -----	224	250	3.6	2.8	0.9		21.0	18.4	6.7	4.8
Lawyers -----	144	133	2.1		0.7	0.7	7.6	14.3	6.9	7.5
Musicians and teachers of music Physicians and surgeons -----	64	81		1.2	1.6		20.3	40.7	6.3	7.4
Teachers (school) -----	155	147	0.6	0.7	0.6	2.0	12.3	7.5	3.9	6.8
Teachers of this class -----	58				1.7		20.7		8.6	
Others of this class -----	117	160	0.9		1.7	1.3	13.7	16.9	9.4	7.5
Clerical and official -----	1,334	1,212	0.8	0.7	0.4	1.0	21.8	20.9	6.2	5.4
Bookkeepers, clerks and copyists Bankers, brokers and officials of companies -----	648	570	0.9	0.7	0.5	1.2	29.5	31.4	5.1	3.9
Collectors, auctioneers and agents -----	230	193	1.3	1.0	0.4	2.1	8.7	8.3	9.1	5.7
Others of this class -----	329	339	0.6	0.6		0.3	18.9	12.4	6.7	8.0
Mercantile and trading -----	127	110		0.9	0.8		14.2	15.5	5.5	4.6
Apothecaries, pharmacists, etc. Commercial travelers -----	1,302	1,303	1.5	1.2	0.8	0.6	14.0	14.4	7.3	7.5
Merchants and dealers -----	66	67			3.0	1.5	18.2	13.4	7.6	4.5
Hucksters and peddlers -----	60						21.7		6.7	
Others of this class -----	803	819	1.4	1.4	1.1	0.7	8.8	10.1	8.6	8.4
Public entertainment -----	50	52					24.0	19.2	2.0	2.0
Hotel and boarding-house keepers -----	323	365	1.9	1.4	0.3	0.3	23.2	23.6	4.9	7.1
Saloonkeepers, liquor dealers, bartenders and restaurant keepers -----	407	372	1.7	1.4	0.5	0.8	18.7	15.6	9.6	4.0
Personal service, police, and military -----	109	100	1.8	2.0			17.4	12.0	12.9	4.0
Barbers and hairdressers -----	298	272	1.7	1.1	0.7	1.1	19.1	16.9	8.4	4.0
Janitors and sextons -----	569	450	1.2	2.0	1.4	1.6	15.5	16.0	5.6	5.1
Policemen, watchmen and detec- tives -----	122	100	2.5	4.0	0.8	1.0	22.9	24.0	5.7	5.0
Soldiers, sailors and marines (U. S.) -----	73		1.4		2.7		12.3		4.1	
Others of this class -----	124	94	0.8	1.1	0.8	2.1	8.1	6.4	8.1	7.4
Laboring and servant -----	140	128	0.7	1.6	1.4	1.6	12.1	11.7	5.7	3.9
Laborers (not agricultural) -----	110	128	0.9	1.6	1.8	1.6	21.8	21.1	3.6	4.7
Servants -----	3,597	3,420	1.8	1.9	1.0	1.0	22.8	21.2	4.9	4.2
Manufacturing and mechanical industry -----	3,179	3,005	2.0	2.0	1.1	1.1	22.3	20.7	4.8	4.4
Bakers -----	418	415	0.7	1.5	0.5	0.7	27.3	24.6	5.5	3.1
Blacksmiths -----	3,486	3,349	1.0	1.2	0.9	1.0	16.7	17.3	5.9	5.9
Boot and shoe makers -----	92	89	1.1	4.5	1.1		20.7	18.0	5.4	2.2
Butchers -----	194	177	2.1	0.6	2.1	2.3	14.9	12.4	7.7	6.8
Cabinetmakers and upholsterers Carpenters -----	105	96		2.1	1.0		10.5	9.4	9.5	6.2
Compositors, printers and press- men -----	130	113	0.8	1.8	1.5		22.3	16.8	2.3	5.3
Engineers and firemen (not loco- motive) -----	63	59		1.7	3.2	1.7	12.7	11.9	3.2	16.9
Iron and steel workers -----	652	685	1.1	0.9	0.9	1.6	13.5	12.1	7.5	7.0
Machinists -----	109	98			1.8		18.3	23.6	6.4	6.1
Masons (brick and stone) -----	208	201	1.4	0.5		1.5	15.4	17.4	4.8	5.0
Painters, glaziers and varnishers Plumbers and gas and steam fitters -----	140	168	1.4	2.4		1.2	22.2	17.9	5.0	4.8
Tailors -----	196	170		2.9		1.2	18.4	19.4	7.7	7.1
Others of this class -----	85	89	1.2		1.2	1.1	15.3	15.7	9.4	9.0
Others of this class -----	273	255	1.1	1.6	1.1	1.2	18.7	23.1	3.7	3.5
Others of this class -----	82	94		1.1			30.5	31.9		2.1
Others of this class -----	128	134			0.8		25.8	26.9	3.9	3.0
Others of this class -----	1,029	921	1.2	1.1	0.8	0.7	15.3	17.1	5.7	6.1

Females 15 Years and Over, Classified by Occupation, for California: 1913 and 1912.

Per cent of deaths															
Diseases of nervous system		Diseases of circulatory system		Diseases of respiratory system		Diseases of digestive system		Bright's disease and nephritis		Suicide		Other violence		All other causes	
1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912
10.5	9.4	19.6	20.7	8.7	9.2	6.8	6.7	7.4	7.1	2.6	2.6	8.6	8.5	10.8	10.8
9.7	9.0	19.4	20.6	8.5	9.0	6.1	6.3	7.5	7.3	3.4	3.6	11.5	11.3	8.6	8.6
9.5	8.6	19.1	20.2	8.5	8.8	6.1	6.4	7.3	7.3	3.4	3.5	11.7	11.5	8.5	8.3
10.1	12.6	21.5	21.9	7.9	6.1	5.6	5.9	9.2	9.7	2.9	2.9	8.1	8.4	9.2	7.3
7.9	8.5	17.7	20.3	5.9	5.1	3.9	8.5	13.7	6.8	3.9	6.8	7.8	8.5	9.8	6.8
7.4	11.9	23.0	20.2	19.8	12.9	6.7	8.3	9.5	12.8	-----	0.9	4.0	4.6	11.5	11.0
8.0	11.2	12.9	22.0	7.1	3.6	4.9	3.2	4.5	7.6	3.6	4.0	18.8	17.2	8.0	5.2
17.4	14.3	23.6	27.1	6.9	6.8	4.9	4.5	11.8	15.0	4.9	1.5	2.8	3.0	10.4	5.3
6.2	6.2	25.0	9.9	7.8	8.6	1.6	9.9	9.4	3.7	4.7	3.7	6.2	6.2	10.9	2.5
9.7	18.4	29.7	25.9	10.3	5.4	6.5	7.5	12.9	12.2	1.3	0.7	4.5	2.7	7.7	10.2
15.5	-----	25.9	-----	1.7	-----	5.2	-----	10.3	-----	-----	-----	3.5	-----	6.9	-----
9.4	13.1	20.5	21.9	7.7	4.4	8.6	5.0	6.8	8.1	5.1	3.7	7.7	8.1	8.5	10.0
10.6	9.2	17.4	22.5	7.4	7.6	6.4	7.9	8.4	8.7	4.3	4.4	7.4	5.9	8.9	5.8
9.7	7.7	14.2	19.0	8.0	7.5	5.9	7.9	6.2	6.7	4.6	4.2	6.0	5.1	9.4	4.7
10.9	10.9	24.3	25.4	4.3	10.9	8.7	6.2	10.9	10.4	8.5	5.7	8.3	6.7	9.6	6.7
10.9	10.3	17.9	25.6	8.5	7.1	5.2	8.0	10.0	9.4	4.6	5.0	8.5	5.3	8.2	8.0
13.4	10.0	19.7	26.4	7.1	3.6	7.9	10.9	11.0	13.6	3.1	1.8	10.2	10.0	7.1	2.7
11.5	8.5	24.4	25.7	7.6	7.3	6.4	7.2	7.8	8.9	3.5	3.9	6.8	7.0	8.4	7.8
13.6	7.5	22.7	28.3	7.6	3.0	3.0	6.0	6.1	16.4	3.0	4.5	4.6	7.5	10.6	7.4
8.3	-----	18.3	-----	5.0	-----	5.0	-----	3.3	-----	5.0	-----	15.0	-----	11.7	-----
13.3	9.0	25.9	29.1	7.3	8.1	6.9	7.7	9.0	7.9	4.1	3.7	4.6	5.6	9.0	8.3
2.0	3.9	22.0	19.2	8.0	7.7	-----	5.8	2.0	11.6	4.0	1.9	20.0	19.2	16.0	11.5
8.7	8.2	22.8	18.3	8.7	6.3	7.1	6.6	6.8	9.3	1.9	4.7	9.0	8.2	4.9	6.0
8.9	11.0	13.5	16.9	8.1	8.3	8.4	11.6	9.3	7.0	4.9	5.7	6.6	6.7	9.8	11.0
6.4	14.0	16.5	23.0	7.3	8.0	7.3	12.0	13.8	3.0	3.7	8.0	3.7	6.0	9.2	8.0
9.7	9.9	12.4	14.7	8.4	8.5	8.7	11.4	7.7	8.5	5.4	4.8	7.7	7.0	10.1	12.1
10.2	8.0	19.1	18.0	9.3	9.1	5.8	7.8	8.3	7.1	3.7	5.8	11.8	9.1	8.1	10.4
6.6	10.0	13.1	16.0	5.7	6.0	6.6	4.0	8.2	5.0	6.6	6.0	12.3	6.0	9.0	13.0
9.6	-----	26.0	-----	12.3	-----	1.4	-----	11.0	-----	-----	-----	11.0	-----	8.2	-----
16.1	9.6	21.8	19.1	10.5	13.8	2.4	10.6	8.9	9.6	4.0	4.3	13.7	9.6	4.8	6.4
7.9	8.6	21.4	16.4	12.9	6.2	7.9	10.1	7.9	4.7	2.9	8.6	11.4	13.3	7.8	13.3
10.9	4.7	15.5	20.3	5.5	10.9	9.1	6.2	6.4	9.4	3.6	3.9	10.0	7.0	10.9	8.6
6.8	6.5	15.7	15.6	9.6	9.6	5.7	5.7	4.9	5.5	4.1	4.1	15.6	17.1	7.1	7.6
7.0	6.4	15.0	15.4	9.9	9.7	5.6	5.7	4.8	5.3	4.0	3.8	16.5	18.0	7.0	7.5
5.0	7.2	20.3	17.1	7.7	8.4	6.7	5.3	5.0	6.8	5.0	6.5	8.6	10.6	7.7	8.2
10.6	9.4	21.0	21.1	7.6	7.7	6.0	6.6	7.6	7.9	3.3	3.8	10.8	9.2	8.6	8.9
8.7	13.5	17.4	24.7	4.3	3.4	5.4	9.0	8.7	5.6	6.5	4.5	10.9	6.7	9.8	7.9
12.9	10.7	22.7	23.7	5.1	12.4	4.6	6.8	5.7	6.8	-----	3.4	8.8	4.5	13.4	9.6
11.4	9.4	25.7	27.1	5.7	9.4	3.8	7.3	10.5	14.6	4.8	4.1	5.7	1.0	11.4	9.4
10.0	6.2	18.5	17.7	9.2	9.7	6.9	15.0	8.5	8.0	7.7	2.7	5.4	8.8	6.9	8.0
7.9	11.8	23.8	22.0	15.9	1.7	9.5	6.8	7.9	8.5	6.4	5.1	6.3	5.1	3.2	6.8
10.0	10.4	23.2	24.2	6.1	9.1	6.4	5.0	7.7	8.2	3.4	2.6	10.9	9.3	9.3	9.6
14.7	4.1	16.5	17.3	6.4	10.2	8.3	10.2	9.2	5.1	2.8	3.1	7.3	3.1	8.3	12.2
13.0	6.5	16.8	20.4	6.7	5.5	8.7	7.0	7.2	7.9	3.4	3.0	15.9	16.9	6.7	8.4
9.3	5.9	12.1	25.0	10.0	8.3	7.1	5.3	6.4	6.5	2.9	3.6	17.9	14.3	5.7	4.8
6.1	9.4	16.3	13.5	11.7	4.1	7.1	4.1	3.1	7.7	5.6	5.3	16.3	17.1	7.7	8.2
9.4	7.9	23.5	20.2	8.2	4.5	2.3	9.0	10.6	11.2	1.2	2.3	5.9	4.5	11.8	14.6
11.4	9.8	18.7	18.8	8.4	8.2	5.1	5.5	5.5	8.6	1.8	5.5	11.3	7.9	13.2	6.3
8.5	9.6	15.9	14.9	4.9	7.4	6.1	3.2	6.1	6.4	6.1	4.3	14.6	13.8	7.3	5.3
11.7	8.9	24.2	18.7	5.5	6.7	3.9	6.0	7.0	8.2	5.5	8.2	3.9	5.2	7.8	8.2
10.8	10.1	23.1	20.4	8.5	7.3	5.6	7.3	8.8	7.6	2.4	3.6	10.6	8.9	7.2	9.8

TABLE 26.—Per Cent Distribution, by Selected Causes, of Deaths of Males
1913 and 1912

Occupation (Showing annually at least 50 deaths)	Deaths		Per cent of deaths							
	1913	1912	Typhoid fever		Other epi- demic dis- eases		Tubercu- losis		Cancer	
			1913	1912	1913	1912	1913	1912	1913	1912
Agriculture, transportation and other outdoor.....	5,278	5,208	1.6	1.6	1.5	1.6	13.5	13.2	6.7	6.8
Draymen, hackmen and team- sters.....	445	408	2.0	1.5	0.9	1.0	19.6	20.1	4.1	3.9
Farmers, planters and farm laborers.....	2,275	2,570	1.5	1.9	2.1	2.1	11.1	9.8	8.0	7.8
Gardeners, florists, nurserymen and vine growers.....	197	193	1.0	1.6	0.5	-----	12.7	15.5	7.6	8.8
Livery stable keepers and hostlers.....	63	56	-----	-----	-----	1.8	7.9	10.7	1.6	7.2
Lumbermen and raftsmen.....	129	139	2.3	2.2	2.3	1.4	10.1	11.5	8.5	8.6
Miners and quarrymen.....	764	728	0.6	0.7	1.2	1.0	16.1	18.3	5.5	6.0
Sailors, pilots and oystermen.....	244	244	3.3	1.6	0.8	0.8	16.4	10.2	5.3	4.9
Steam railroad employees.....	379	363	1.6	1.4	0.3	1.6	17.9	17.6	4.5	5.8
Stock raisers, herders and drovers.....	452	216	2.0	1.4	2.0	0.5	12.0	12.0	7.1	10.6
Others of this class.....	230	291	2.1	2.4	0.6	1.4	13.9	17.9	6.1	4.5
All other occupations.....	111	138	1.8	0.7	4.5	2.2	21.7	21.7	6.3	4.4
No occupation.....	2,901	2,610	0.8	1.0	1.7	0.7	12.5	12.4	6.1	4.4
<i>Females</i>	11,638	11,173	1.0	0.9	1.8	1.5	13.4	14.1	11.3	10.8
All occupations.....	1,183	1,024	1.1	1.9	1.3	1.1	17.2	23.4	11.0	8.2
Teachers in schools.....	110	101	1.8	2.0	1.8	3.0	23.6	21.8	16.4	12.9
Bookkeepers, clerks and copyists	63	68	4.8	1.5	4.8	2.9	27.0	39.7	7.9	7.4
Nurses and midwives.....	82	85	2.5	5.9	-----	-----	8.5	20.0	13.3	14.1
Servants.....	279	240	0.4	1.7	1.1	0.4	17.6	22.1	7.9	4.6
Dressmakers and seamstresses	95	84	-----	2.4	-----	1.2	8.4	29.8	19.0	10.7
All other occupations.....	557	446	0.9	1.4	1.3	0.9	17.4	21.5	9.5	7.6
No occupation.....	10,452	10,149	0.9	0.8	1.8	1.6	13.0	13.2	11.3	11.0

and Females 15 Years and Over, Classified by Occupation, for California:
—Continued.

Per cent of deaths																	
Diseases of nervous system		Diseases of circulatory system		Diseases of respiratory system		Diseases of digestive system		Bright's disease and nephritis		Suicide		Other violence		All other causes			
1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912	1913	1912
9.6	8.3	19.4	21.1	9.0	10.3	6.2	5.9	7.9	7.1	2.6	2.4	12.8	12.9	9.2	8.8		
7.6	7.3	15.5	17.2	11.2	10.8	4.5	7.3	7.0	4.2	2.9	2.2	17.5	18.4	7.2	6.1		
11.7	9.7	21.7	23.3	9.5	11.2	6.1	6.2	8.0	8.2	1.8	2.0	7.7	7.8	10.8	10.0		
7.6	3.6	21.8	23.3	12.2	11.4	3.6	9.8	11.7	8.3	4.1	1.6	8.1	7.8	9.1	8.3		
12.7	12.5	22.2	23.2	12.7	3.6	11.1	3.6	9.5	12.5	8.9	17.5	7.1	4.8	8.9			
2.8	3.6	11.7	18.0	5.4	7.2	7.8	4.3	8.5	5.0	3.1	2.2	29.5	33.1	8.5	7.9		
7.2	6.2	21.6	21.6	8.2	9.5	6.7	5.2	8.2	6.0	2.4	1.9	13.0	14.5	9.3	9.1		
8.6	10.3	19.7	20.1	9.8	12.7	5.3	4.1	4.9	6.2	3.3	4.5	15.2	17.6	7.4	7.0		
9.2	5.8	11.1	14.9	5.3	5.5	6.3	5.2	7.9	6.1	3.7	3.6	26.7	28.1	5.5	4.4		
10.8	11.6	16.8	17.6	8.9	12.0	8.4	4.6	9.1	7.4	3.5	1.9	9.7	8.8	9.7	11.6		
7.3	6.9	18.5	16.1	7.3	8.9	6.1	4.8	4.2	4.8	4.8	4.1	23.3	21.3	5.8	6.9		
6.3	9.4	17.1	12.3	2.7	8.7	3.6	8.0	6.3	7.3	5.4	3.6	20.7	13.0	3.6	8.7		
11.3	11.5	21.5	23.4	8.3	9.7	6.1	5.7	8.7	6.8	3.5	3.8	10.1	10.1	9.4	10.5		
11.8	10.1	19.9	20.9	9.0	9.6	6.6	7.3	7.1	6.7	1.3	1.1	3.6	3.7	13.2	13.3		
11.2	8.6	17.0	18.7	8.3	8.2	7.3	6.9	5.9	5.4	2.1	1.9	6.0	6.1	11.6	9.6		
13.6	13.8	11.8	11.9	6.4	11.9	7.3	4.9	4.5	3.0	1.8	1.0	5.5	5.9	5.5	7.9		
12.7	5.9	4.8	13.2	4.7	7.4	6.3	4.4	3.2	8.2	4.4	7.9	5.9	12.7	7.3			
4.9	4.7	19.5	22.3	7.3	4.7	8.5	11.8	8.5	2.4	6.1	15.9	14.1					
13.2	8.3	17.9	21.7	9.7	7.1	5.4	5.8	8.2	6.7	2.1	3.7	6.1	8.3	10.4	9.6		
9.5	7.1	18.9	8.3	2.1	7.1	10.5	7.1	12.6	4.8	2.1	2.4	3.2	6.0	13.7	13.1		
10.8	9.0	18.1	20.6	9.7	9.0	7.5	7.4	3.8	6.7	2.3	1.1	6.3	6.1	12.4	8.7		
11.9	10.3	20.3	21.1	9.1	9.8	6.5	7.3	7.2	6.9	1.3	1.0	3.3	3.4	13.4	13.6		

It appears from Table 26 that among all decedents 15 years and over the per cent of deaths from typhoid fever was 1.2 in both 1913 and 1912, the per cents being 1.3 and 1.4 among men but only 1.0 and 0.9 among women of the age stated. In 1913 and 1912, respectively, the per cents of deaths from typhoid fever were notably high for the following occupations of men: Engineers and surveyors, 3.6 and 2.8; sailors, pilots and oystermen, 3.3 and 1.6; barbers and hairdressers, 2.5 and 4.0; lumbermen and raftsmen, 2.3 and 2.2; laborers (not agricultural), 2.0 each year; draymen, hackmen and teamsters, 2.0 and 1.5; stock raisers, herders and drovers, 2.0 and 1.4; hotel and boarding-house keepers, 1.8 and 2.0; iron and steel workers, 1.4 and 2.4; steam railroad employees, 1.6 and 1.4; farmers, planters and farm laborers, 1.5 and 1.9; and merchants and dealers, 1.4 each year. Among women the per cents of deaths from typhoid fever were 2.5 and 5.9 for nurses and midwives, 4.8 and 1.5 for bookkeepers, clerks and copyists, and 1.8 and 2.0 for teachers in schools.

The "great white plague," tuberculosis, caused 15.4 per cent of all deaths at 15 years and over in both 1913 and 1912, the per cents being 16.6 and 16.1 for men and 13.4 and 14.1 for women of potential working age. The per cents were 17.2 and 16.8 among men reporting occupations as compared with only 12.5 and 12.4 for men without gainful occupation, and were likewise 17.2 and 23.4 among women wage earners against only 13.0 and 13.2 for housewives and other non-workers.

The per cents of deaths from tuberculosis equalled or exceeded the averages of 17.2 and 16.8 among men at work for several specific occupations in both 1913 and 1912 as follows: Plumbers and gas and steam fitters, 30.5 and 31.9; bookkeepers, clerks and copyists, 29.5 and 31.4; servants (waiters, cooks), 27.3 and 24.6; tailors, 25.8 and 26.9; musicians and teachers of music, 20.3 and 40.7; barbers and hairdressers, 22.9 and 24.0; hucksters and peddlers, 24.0 and 19.2; laborers (not agricultural), 22.3 and 20.7; butchers, 22.3 and 16.8; iron and steel workers, 22.2 and 17.9; engineers and surveyors, 21.0 and 18.4; bakers, 20.7 and 18.0; draymen, hackmen and teamsters, 19.6 and 20.1; saloon keepers and restaurant keepers, 19.1 and 16.9; painters, glaziers and varnishers, 18.7 and 23.1; composers, printers and pressmen, 18.3 and 28.6; machinists, 18.4 and 19.4; and steam railroad employees, 17.9 and 17.6. For women workers the per cents of deaths from tuberculosis were 27.0 and 39.7 among bookkeepers, clerks and copyists, 23.6 and 21.8 among teachers in schools, and 17.6 and 22.1 among servants.

On the other hand, the per cents of deaths from tuberculosis were very low indeed in both 1913 and 1912 for men engaged in the following occupations: Policemen, watchmen and detectives, 8.1 and 6.4; bankers, brokers and officials of companies, 8.7 and 8.3; merchants and dealers, 8.8 and 10.1; lawyers, 7.6 and 14.3; physicians and surgeons, 12.3 and 7.5; boot and shoe makers, 10.5 and 9.4; livery stable keepers and hostlers, 7.9 and 10.7; lumbermen and raftsmen, 10.1 and 11.5; farmers, planters and farm laborers, 11.1 and 9.8; soldiers, sailors and marines (U. S.), 12.1 and 11.7; and stock raisers, herders and drovers, 12.0 each year.

The per cents of deaths produced by cancers were 8.0 and 7.6 in 1913 and 1912 for all decedents aged 15 years and over, being only 6.2 and 5.7 among men but no less than 11.3 and 10.8 among women. For men, the per cents of deaths from cancer were notably high among masons

(brick and stone), 9.4 and 9.0; stock raisers, herders and drovers, 7.1 and 10.6; merchants and dealers, 8.6 and 8.4; boot and shoe makers, 9.5 and 6.2; policemen, watchmen and detectives, 8.1 and 7.4; farmers, planters and farm laborers, 8.0 and 7.8; machinists, 7.7 and 7.1; blacksmiths, 7.7 and 6.8; gardeners, florists, nurserymen and vine growers, 7.6 and 8.8; carpenters, 7.5 and 7.0; lawyers, 6.9 and 7.5; clergymen, 6.8 and 7.3; collectors, auctioneers and agents, 6.7 and 8.0; and compositors, printers and pressmen, 6.4 and 6.1. For women, the per cents of deaths from cancer were 19.0 and 10.7 among dressmakers and seamstresses, 18.3 and 14.1 among nurses and midwives, and 16.4 and 12.9 among teachers in schools.

The per cents of diseases of the circulatory system (heart disease, etc.) were 19.6 and 20.7 in 1913 and 1912 among all decedents 15 years and over, being 19.4 and 20.6 among men and 19.9 and 20.9 among women. The per cents were particularly great for the following specific occupations of men: Physicians and surgeons, 29.7 and 25.9; merchants and dealers, 25.9 and 29.1; boot and shoe makers, 25.7 and 27.1; lawyers, 23.6 and 27.1; bankers and brokers, 24.3 and 25.4; cabinetmakers and upholsterers, 23.8 and 22.0; carpenters, 23.2 and 24.2; apothecaries, pharmacists, etc., 22.7 and 28.3; clergymen, 23.0 and 20.2; blacksmiths, 22.7 and 23.7; masons (brick and stone), 23.5 and 20.2; livery stable keepers and hostlers, 22.2 and 23.2; gardeners and nurserymen, 21.8 and 23.3; farmers and planters, 21.7 and 23.3; miners and quarrymen, 21.6 each year; and sailors and pilots, 19.7 and 20.1. Among women wage earners the per cents of deaths from heart disease were 19.5 and 22.3 for nurses and midwives and 17.9 and 21.7 for servants.

The per cents for Bright's disease and nephritis, which often occur with heart disease, were 7.4 and 7.1 in 1913 and 1912 for all decedents 15 years and over, being 7.5 and 7.3 among men and 7.1 and 6.7 among women. The per cents were notably high for men engaged in the following occupations: Physicians and surgeons, 12.9 and 12.2; lawyers, 11.8 and 15.0; boot and shoe makers, 10.5 and 14.6; masons (brick and stone), 10.6 and 11.2; bankers and brokers, 10.9 and 10.4; clergymen, 9.5 and 12.8; collectors and agents, 10.0 and 9.4; gardeners and nurserymen, 11.7 and 8.3; livery stable keepers and hostlers, 9.5 and 12.5; merchants and dealers, 9.0 and 7.9; policemen and detectives, 8.9 and 9.6; butchers, 8.5 and 8.0; farmers and planters, 8.0 and 8.2; cabinet makers and upholsterers, 7.9 and 8.5; saloon keepers and restaurant keepers, 7.7 and 8.5; carpenters, 7.7 and 8.2; and engineers and firemen (not locomotive), 7.2 and 7.9. For women workers, the per cents of deaths from Bright's disease and nephritis were 12.6 and 4.8 among dressmakers and seamstresses and 8.2 and 6.7 among servants.

For diseases of the nervous system the per cents in 1913 and 1912 were 10.5 and 9.4 for all decedents, 9.7 and 9.0 for males, and 11.8 and 10.1 for females. The per cents were particularly great among men in the following occupations: Lawyers, 17.4 and 14.3; physicians and surgeons, 9.7 and 18.4; livery stable keepers and hostlers, 12.7 and 12.5; policemen and detectives, 16.1 and 9.6; merchants and dealers, 13.3 and 9.0; blacksmiths, 12.9 and 10.7; farmers and planters, 11.7 and 9.7; tailors, 11.7 and 8.9; painters, glaziers and varnishers, 11.4 and 9.8; boot and shoe makers, 11.4 and 9.4; bankers and brokers, 10.9 each year; stock raisers, herders and drovers, 10.8 and 11.6; collectors and agents, 10.9

and 10.3; carpenters, 10.0 and 10.4; and saloon keepers and restaurant keepers, 9.7 and 9.9. The per cents were 13.6 and 13.8 for school teachers among women workers.

For diseases of the respiratory system, the per cents in 1913 and 1912 were 8.7 and 9.2 for all decedents, 8.5 and 9.0 for men, and 9.0 and 9.6 for women. The per cents were notably high for the following occupations of men: Gardeners and nurserymen, 12.2 and 11.4; draymen, hackmen and teamsters, 11.2 and 10.8; clergymen, 10.8 and 12.9; policemen and detectives, 10.5 and 13.8; sailors and pilots, 9.8 and 12.7; farmers and planters, 9.5 and 11.2; stockraisers, herders and drovers, 8.9 and 12.0; and butchers, 9.2 and 9.7.

For diseases of the digestive system, the per cents in 1913 and 1912 were 6.3 and 6.7 among all decedents, 6.1 and 6.3 among males, and 6.6 and 7.3 among females. The per cents were notably high for men in the following occupations: Saloon keepers and restaurant keepers, 8.7 and 11.4; composers, printers and pressmen, 8.3 and 10.2; soldiers, sailors and marines (U. S.), 7.9 and 10.1; butchers, 6.9 and 15.0; hotel and boarding-house keepers, 7.3 and 12.0; cabinetmakers and upholsterers, 9.5 and 6.8; engineers and firemen (not locomotive), 8.7 and 7.0; merchants and dealers, 6.9 and 7.7; clergymen, 6.7 and 8.3; and physicians and surgeons, 6.5 and 7.5. The per cents were 8.5 and 11.8 for nurses and midwives and 10.5 and 7.1 for dressmakers and seamstresses among women wage earners.

Suicides formed 2.6 per cent of all deaths at 15 years and over in both 1913 and 1912, the per cents being 3.4 and 3.6 among men and 1.3 and 1.1 among women of potential working age. The per cents of suicides were 3.4 and 3.5 for men reporting occupations as compared with 3.5 and 3.8 for those not working or on the retired list. Among women, however, the per cents of suicides were greater for wage earners, 2.1 and 1.9, than for housewives and others without gainful occupation, 1.3 and 1.0.

The occupations of men surpassing the average per cents of 3.4 and 3.5 for suicides were as follows: Barbers and hair dressers, 6.6 and 6.0; bakers, 6.5 and 4.5; cabinetmakers and upholsterers, 6.4 and 5.1; plumbers and gas and steam fitters, 6.1 and 4.3; tailors, 5.5 and 8.2; machinists, 5.6 and 5.3; saloonkeepers and restaurant keepers, 5.4 and 4.8; servants (waiters, cooks), 5.0 and 6.5; boot and shoe makers, 4.8 and 4.1; collectors and agents, 4.6 and 5.0; bookkeepers, clerks and copyists, 4.6 and 4.2; musicians and teachers of music, 4.7 and 3.7; architects, artists and teachers of art, 3.9 and 6.8; engineers and surveyors, 3.6 and 4.0; merchants and dealers, 4.1 and 3.7; policemen and detectives, 4.0 and 4.3; laborers (not agricultural), 4.0 and 3.8; hotel and boarding-house keepers, 3.7 and 8.0; and steam railroad employees, 3.7 and 3.6. Among women reporting gainful occupations, the per cents of suicides were quite high for bookkeepers, clerks and copyists, 3.2 and 4.4; servants, 2.1 and 3.7; and dressmakers and seamstresses, 2.1 and 2.4.

For deaths from violence other than suicide, the per cents in 1913 and 1912 were 8.6 and 8.5 for all decedents 15 years and over, being as great as 11.5 and 11.3 among men but only 3.6 and 3.7 among women of this age. For each sex, especially females, the proportion dying from accidental injuries was greater among those reporting occupations than among those without gainful occupation. The per cents were

11.7 in 1913 and 11.5 in 1912 for men workers against 10.1 each year for men not employed, and were 6.0 and 6.1 for women wage earners as compared with 3.3 and 3.4 for housewives and other non-workers.

The occupations of men with more than the average per cents of 11.7 and 11.5 for deaths from miscellaneous violence were as follows: Lumbermen and raftsmen, 29.5 and 33.1; steam railroad employees, 26.7 and 28.1; hucksters and peddlers, 20.0 and 19.2; engineers and surveyors, 18.8 and 17.2; draymen, hackmen and teamsters, 17.5 and 18.4; laborers (not agricultural), 16.5 and 18.0; machinists, 16.3 and 17.1; engineers and firemen (not locomotive), 15.9 and 16.9; iron and steel workers, 17.9 and 14.3; sailors and pilots, 15.2 and 17.6; plumbers and gas and steam fitters, 14.6 and 13.8; and miners and quarrymen, 13.0 and 14.5.

On the other hand, the occupations of men with remarkably small per cents of deaths from accidents were the following: Lawyers, 2.8 and 3.0; physicians and surgeons, 4.5 and 2.7; clergymen, 4.0 and 4.6; merchants and dealers, 4.6 and 5.6; apothecaries, pharmacists, etc., 4.6 and 7.5; tailors, 3.9 and 5.2; hotel and boarding-house keepers, 3.7 and 6.0; boot and shoe makers, 5.7 and 1.0; masons (brick and stone), 5.9 and 4.5; bookkeepers, clerks and copyists, 6.0 and 5.1; cabinetmakers and upholsterers, 6.3 and 5.1; compositors, printers and pressmen, 7.3 and 3.1; and musicians and teachers of music, 6.2 in both 1913 and 1912.

TABLE 27.—Deaths from Each Specified Disease and Class of Diseases.

Cause of death	Total deaths	Male	Female	White	Negro	Indian	Chinese
ALL CAUSES	38,599	23,807	14,792	36,501	595	188	707
I. GENERAL DISEASES	11,183	6,686	4,497	10,460	220	69	272
No. 1. Typhoid fever	436	294	142	399	5	1	6
2. Typhus fever							
3. Relapsing fever							
4. Malaria	77	46	31	68	1	1	3
5. Smallpox	15	8	7	15			
6. Measles	154	75	79	146	1	2	
7. Scarlet fever	85	42	43	75			10
8. Whooping cough	128	52	76	120	3	1	
9. (a) Diphtheria	187	92	75	161		1	2
(b) Croup	19	14	5	18			
10. Influenza	220	108	112	216	1		3
11. Miliary fever							
12. Asiatic cholera							
13. Cholera nostras	4	4		4			
14. Dysentery	68	39	29	66	1		1
15. Plague	2	1	1	1			
16. Yellow fever							
17. Leprosy							
18. Erysipelas	99	54	45	94	1	3	
19. Other epidemic diseases	9	5	4	9			
20. Purulent infection and septicæmia	72	46	26	66	2	2	2
21. Glanders	1	1		1			
22. Anthrax	2	2		1			1
23. Rabies	7	4	3	5	1		
24. Tetanus	30	20	10	29			
25. Mycoses	1	1		1			
26. Pellagra	19	6	13	19			
27. Beriberi	4	2	2				1
<i>Tuberculosis.</i>							
28. Tuberculosis of the lungs	4,536	3,063	1,473	4,113	130	44	180
29. Acute miliary tuberculosis	108	63	45	99	4		2
30. Tuberculous meningitis	323	179	144	291	8	1	4
31. Abdominal tuberculosis	234	124	110	212	9	6	1
32. Pott's disease	49	29	20	46	2		1
33. White swellings	21	14	7	20	1		
34. Tuberculosis of other organs	70	52	18	67	2		
35. Disseminated tuberculosis	61	37	24	61			
36. Rickets	20	6	14	18			
37. Syphilis	212	157	55	196	6	1	4
38. Gonococcus infection	9	4	5	8	1		

Classified by Sex, Race, Nativity and Age Periods, for California: 1913.

Japanese	White				Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
	Born in California	Born in other states	Foreign born	Unknown									
613	9,675	14,297	11,404	1,125	4,336	1,631	1,048	2,273	3,762	4,215	4,670	5,087	11,627
162	2,743	4,283	3,230	204	419	602	452	1,098	1,728	1,732	1,688	1,559	1,905
25	123	149	115	7	2	13	44	106	111	71	42	24	21
4	80	21	16	1	10	9	7	4	12	5	4	9	17
5	5	9	1	1	1	2	2	3	5	1	2	2	2
5	117	20	9	44	82	17	6	1	1	1	1	1	2
4	45	22	7	1	3	44	32	3	1	1	1	1	1
4	104	11	5	66	55	6	6	2	5	2	2	1	1
3	110	37	11	3	5	80	69	2	5	2	2	1	1
1	17	1	3	3	14	2	8	4	7	5	10	13	30
	34	124	56	2	7	8	4	7	5	10	13	30	136
	2	2								1		1	2
	16	27	23		4	6	1	1	3	6	9	6	32
1		1						1				1	
1	26	41	26	1	17		1	4	8	10	12	15	32
	6	3			2	2	3				2		
	30	24	10	2	3	5	7	9	9	8	12	7	12
	1									1			
1	3	1	1		1	3	1	1	1	1		1	
1	17	6	5	1	8	2	8	3	2	1	4	2	
			1						1				
3	1	11	6	1	2		1		2	5	4	4	3
								1				1	
69	1,004	1,708	1,304	97	36	48	78	722	1,189	990	688	466	319
3	40	33	25	1	5	13	12	25	23	15	11	4	
19	185	67	37	2	66	119	49	30	27	19	8	2	3
6	90	70	46	6	22	29	18	33	40	40	27	10	15
	18	14	13	1		5	7	9	9	4	6	6	3
	6	8	6			1	3	5	3	2	2	3	2
1	26	27	13	1	2	8	3	7	18	12	6	5	9
	25	21	15		7	4	8	2	13	11	6	7	3
2	17		1		11	6	1		1			1	
5	105	47	40	4	77	11	3	6	20	32	32	19	12
	2	4	2		2				3	2	1		1

TABLE 27.—Deaths from Each Specified Disease and Class of Diseases, Classified

Cause of death		Total deaths	Male	Female	White	Negro	Indian	Chinese
Cancer.								
No.								
39.	Cancer* of the buccal cavity	102	82	20	100	1		1
40.	Cancer* of the stomach, liver	1,007	599	408	979	5		21
41.	Cancer* of the peritoneum, intestines and rectum	351	186	165	344	6	1	
42.	Cancer* of the female genital organs	372		372	359	8	1	3
43.	Cancer* of the breast	198		198	196	1		1
44.	Cancer* of the skin	77	52	25	75	1		1
45.	Cancer* of other or unspecified organs	458	322	136	444	5		9
43.	Other tumors (except of female genital organs)	9	2	7	9			
47.	Acute articular rheumatism	76	42	34	73	1	1	1
48.	Chronic rheumatism and gout	109	40	69	106	1		3
49.	Scurvy	3	1	2	3			
50.	Diabetes	440	216	224	433	3		4
51.	Exophthalmic goitre	44	7	37	42			2
52.	Addison's disease	16	12	4	15	1		
53.	Leuchæmia	38	27	11	37			
54.	Anæmia, chlorosis	197	98	99	190	3	1	1
55.	Other general diseases	33	18	15	33			
56.	Alcoholism (acute or chronic)	345	301	44	335	4	2	2
57.	Chronic lead poisoning	16	16		16			
58.	Other chronic occupation poisonings	2	2		2			
59.	Other chronic poisonings	28	19	9	25	1		2
II. DISEASES OF THE NERVOUS SYSTEM		3,720	2,160	1,560	3,567	55	10	55
60.	Encephalitis	62	44	18	58	1	1	
61.	(a) Simple meningitis	189	104	85	171	3	1	
	(b) Cerebrospinal meningitis (undefined)	167	102	65	159	4		1
	(c) Cerebrospinal fever	49	27	22	47	1		
62.	Locomotor ataxia	94	78	16	87	2		5
63.	(a) Acute anterior poliomyelitis	33	17	16	32		1	
	(b) Other diseases of the spinal cord	180	102	78	178	1		
64.	Cerebral hæmorrhage, apoplexy	1,965	1,112	853	1,894	23	3	38
65.	Softening of the brain	68	44	24	68			
66.	Paralysis without specified cause	294	154	140	285	5	1	3
67.	General paralysis of the insane	168	134	34	159	4		3
68.	Other forms of mental alienation	86	37	49	81	2		3
69.	Epilepsy	120	68	52	116		1	1
70.	Convulsions (nonpuerperal)	3	2	1	3			
71.	Convulsions of infants	38	24	14	34	1		
72.	Chorea	6	2	4	5	1		
73.	Neuralgia and neuritis	23	10	13	21		1	
74.	Other diseases of the nervous system	122	69	53	117	1	1	1
75.	Diseases of the eyes and their adnexa	2	1	1	2			
76.	Diseases of the ears	51	29	22	50	1		
III. DISEASES OF THE CIRCULATORY SYSTEM		6,281	3,920	2,361	6,071	86	9	98
77.	Pericarditis	46	30	16	44			2
78.	Acute endocarditis	416	281	135	408	6		6
79.	Organic diseases of the heart	4,324	2,623	1,701	4,177	60	3	70
80.	Angina pectoris	172	127	45	164	1	3	2
81.	Diseases of arteries, atheroma, aneurism, etc.	1,132	763	369	1,097	14	3	18
82.	Embolism and thrombosis	141	70	71	137	4		
83.	Diseases of veins (varices, hæmorrhoids, phlebitis, etc.)	23	11	12	23			
84.	Diseases of lymphatic system (lymphangitis, etc.)	15	8	7	14	1		
85.	Hæmorrhage; other diseases of circulatory system	12	7	5	12			

*Cancer and other malignant tumors.

by Sex, Race, Nativity and Age Periods, for California: 1913—Continued.

Japanese	White				Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
	Born in California	Born in other states	Foreign born	Unknown									
2	9	44	45	2	1	1	2	3	25	10	200	282	52
	36	432	445	16									407
	32	171	134	7		1	3	5	11	32	68	91	140
1	52	196	111					2	19	69	107	88	87
	34	112	57					1	7	37	57	47	49
	7	41	20			1		1	1	6	10	17	41
	57	208	175	4	1	4	7	20	17	30	80	108	182
	2	5	2					1		2	1	2	8
	27	28	18		1	5	17	10	11	11	7	8	11
	9	49	46	2			2	5	7	10	8	23	54
	2		1			2						1	
	62	198	170	3		6	20	25	27	30	60	110	158
	10	24	8					1	7	9	17	8	2
	2	10	3					1	2	5	5	1	2
1	15	13	9			6	1	7	6	3	6	6	3
2	33	88	65	4	3	5	8	14	15	22	43	42	45
	16	9	7	1	9	4	3	1	1	2	2	5	6
2	71	125	108	31		1		6	49	112	83	59	35
	4	7	5					2	1	3	5	2	3
			2										1
	4	14	5	2				1	7	2	7	8	3
33	619	1,751	1,188	59	146	148	117	121	133	287	498	625	1,645
2	21	22	15		6	6	7	2	9	11	7	8	6
14	91	50	28	2	52	47	17	15	10	17	10	14	7
3	99	47	12	1	25	46	38	24	7	11	7	6	3
1	19	18	7	3	5	6	9	9	6	7	5	1	1
6	52	29	2					1	12	23	29	29	29
	25	5	2		5	14	9	3	1			1	
1	22	102	52	2	1	3	2	5	9	15	25	36	84
2	131	1,014	715	34	8	2	2	10	24	89	247	392	1,191
	6	34	28						1	2	6	10	49
	22	168	92	3	3		1		2	12	27	53	196
2	19	73	61	6					16	48	66	15	23
	12	40	28	1	1		1	3	10	15	27	16	13
2	53	35	24	4	1		10	36	17	17	14	11	14
1	2						3						
3	33	1			30	8							
	1	4	7			1	1	1		1	1		1
1	4	10	7			2	1	1	2	1	1	5	10
2	26	59	29	3	3	5	5	7	12	24	27	22	17
	2					1	1						
26	15	9			6	7	10	5	6	5	5	6	1
17	486	2,911	2,480	194	12	7	54	96	263	442	760	1,157	3,490
	8	17	19			1	4	2	5	9	6	9	10
1	57	194	137	15	2	3	12	18	40	58	69	73	141
14	354	1,959	1,715	149	2	2	33	73	185	321	564	838	2,306
2	7	91	62	4					3	10	22	39	98
	32	567	488	20				1	12	24	69	166	860
	17	69	47	4	2		3	1	11	16	23	26	59
	2	11	8	2		1	1		2	2	6	4	7
	6	6	2		5		1	1	3	1			4
	3	7	2		1				2	1	1	2	5

TABLE 27.—Deaths from Each Specified Disease and Class of Diseases, Classified

Cause of death	Total deaths	Male	Female	White	Negro	Indian	Chinese
IV. DISEASES OF THE RESPIRATORY SYSTEM							
No. 86. Diseases of the nasal fossæ	2	1	1	2			
87. Diseases of the larynx	13	9	4	11			1
88. Diseases of the thyroid body	16	1	15	16			
89. Acute bronchitis	194	94	100	181	2	1	7
90. Chronic bronchitis	243	126	117	234		3	5
91. Broncho-pneumonia	953	511	442	901	14	3	10
92. (a) Lobar pneumonia	1,175	757	418	1,102	26	3	25
(b) Pneumonia (undefined)	810	501	309	751	8	11	17
93. Pleurisy	105	68	37	97			3
94. Pulmonary congestion, pul. apoplexy	153	103	50	145	3	1	4
95. Gangrene of the lung	9	7	2	9			
96. Asthma	107	67	40	105	1		1
97. Pulmonary emphysema	2	2		2			
98. Other diseases of the respiratory system (tuberculosis excepted)	24	19	5	23			
V. DISEASES OF THE DIGESTIVE SYSTEM							
No. 99. Diseases of the mouth and adnexa	19	12	7	17	1		
100. Diseases of the pharynx	29	15	14	28	1		
101. Diseases of the œsophagus	6	5	1	5	1		
102. Ulcer of the stomach	154	101	53	148	1		3
103. Other diseases of stomach (cancer excepted)	262	147	115	249	2	3	3
104. Diarrhœa and enteritis (under 2 years)	1,270	708	562	1,162	11	13	8
105. Diarrhœa and enteritis (2 years and over)	369	195	174	343	4	6	9
106. Ankylostomiasis							
107. Intestinal parasites	6	5	1	5			
108. Appendicitis and typhlitis	366	237	129	349	4		4
109. (a) Hernias	105	67	38	102	1		2
(b) Intestinal obstructions	282	157	125	252	6	1	13
110. Other diseases of the intestines	55	29	26	52			
111. Acute yellow atrophy of the liver	13	8	5	12			
112. Hydatid tumor of the liver							
113. Cirrhosis of the liver	418	296	122	405	4	1	8
114. Biliary calculi	58	20	38	58			
115. Other diseases of the liver	159	89	70	151	1	1	4
116. Diseases of the spleen	3	2	1	3			
117. Simple peritonitis (nonpuerperal)	39	20	19	35			1
118. Other diseases of digestive system (except cancer and tuberculosis)	21	13	8	18	1		2

by Sex, Race, Nativity and Age Periods, for California: 1913—Continued.

Japanese	White				Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
	Born in California	Born in other states	Foreign born	Unknown									
78	1,161	1,172	1,160	86	664	805	97	116	200	324	355	422	1,323
	1	1					1						1
	6	3	2		2	3	2	1		1	1	2	1
	1	12	8				1	2	1	3	5	3	1
3	86	52	42	1	65	24	5	3	2	4	3	12	76
1	23	101	105	5	9	3	3	1	2	4	9	23	189
25	419	211	250	21	294	132	33	13	25	46	67	70	273
19	301	372	402	27	113	67	20	55	105	163	159	172	318
23	266	256	208	21	167	65	24	28	41	60	67	86	272
5	25	42	26	4	1	4	4	10	15	21	13	11	26
	19	65	60	1	12	5	3	1	2	2	6	14	106
	2	3	4					1	1	3	2	1	1
	10	42	50	3		2		1	2	11	18	25	48
		1	1							1			1
1	2	11	7	3	1		1		4	2	5	3	8
120	1,657	964	719	54	1,194	354	103	127	211	278	348	329	690
1	7	6	4		6	2	1	1	1	1		3	4
	14	8	4	2	1	9	5	4	3	3	2	1	1
	2	1	2		1	1			2			2	1
2	23	78	45	2		1		2	22	27	33	28	41
5	61	109	77	2	32	18	6	5	13	12	24	33	119
76	1,112	30	17	3	1,076	194							
7	104	140	93	6		95	26	10	12	29	24	35	138
1			5					2	3		1		
9	125	137	84	3	2	12	43	71	72	55	55	34	22
	20	42	38	2	8	2		2	6	10	16	15	46
10	80	106	61	3	50	16	11	8	21	34	44	25	73
3	18	19	14	1	5	2	4	3	5	10	4	10	12
1	6	4	1	1	3		1	3	2			1	3
	52	147	183	23	1		1	3	21	62	95	86	149
	6	32	17	3				1	3	10	6	17	21
2	19	71	59	2	6	1	2	7	14	13	31	32	53
		1	2					1			2		
3	7	17	10	1	3		3	3	10	6	6	5	3
	1	14	3		1	1		1	1	6	5	2	4

TABLE 27.—Deaths from Each Specified Disease and Class of Diseases, Classified

Cause of death		Total deaths	Male	Female	White	Negro	Indian	Chinese
VI. DISEASES OF THE GENITO-URINARY SYSTEM		2,960	1,872	1,088	2,831	52	5	52
119.	Acute nephritis	183	118	65	166	4		5
120.	Bright's disease	2,209	1,420	789	2,122	32	4	41
121.	Chyluria							
122.	Other diseases of kidneys and adnexa	55	38	17	54			1
123.	Calculi of the urinary passages	16	13	3	16			
124.	Diseases of the bladder	149	141	8	146		1	1
125.	Diseases of the urethra, urinary abscess, etc.	13	12	1	12	1		
126.	Diseases of the prostate	125	125		121	2		2
127.	Nonvenereal diseases of male genital organs	78		78	73	5		
128.	Uterine hæmorrhage (nonpuerperal)	1		1	1			
129.	Uterine tumor (noncancerous)	71		71	65	6		
130.	Other diseases of the uterus	19		19	19			
131.	Cysts and other tumors of the ovary	36		36	33	1		1
132.	Salpingitis and other diseases of female genital organs	78		78	73	5		
133.	Nonpuerperal diseases of the breast (cancer excepted)							
VII. THE PUERPERAL STATE		396		395	367	4	2	3
134.	Accidents of pregnancy	88		88	81	1		1
135.	Puerperal hæmorrhage	37		37	37			
133.	Other accidents of labor	28		28	26			
137.	Puerperal septicæmia	101		101	90	2	1	
138.	Puerperal albuminuria and convulsions	108		108	104	1		1
139.	Puerperal phlegmasia alba dolens, embolus, sudden death	11		11	11			
140.	Following childbirth (not otherwise specified)	22		22	18		1	1
141.	Puerperal diseases of the breast							
VIII. DISEASES OF THE SKIN		132	89	43	127	3		2
142.	Gangrene	69	43	26	65	2		2
143.	Furuncle	13	13		13			
144.	Acute abscess	30	23	7	30			
145.	Other diseases of the skin and adnexa	20	10	10	19	1		
IX. DISEASES OF THE BONES		46	27	19	45		1	
146.	Diseases of the bones (tuberculosis excepted)	42	26	16	41		1	
147.	Diseases of the joints (except tuberculosis and rheumatism)	3		3	3			
148.	Amputations							
149.	Other diseases of the organs of locomotion	1	1		1			
X. MALFORMATIONS		336	214	152	353	2		3
150.	(a) Hydrocephalus	27	10	17	24			
	(b) Congenital malformation of heart	266	160	106	261	1		1
	(c) Other congenital malformations	73	44	29	68	1		2
XI. DISEASES OF EARLY INFANCY		1,444	836	608	1,334	25	10	12
151.	(a) Premature birth	801	468	333	743	13	4	6
	(b) Congenital debility (atrophy, marasmus, etc.)	321	180	141	296	5	3	4
152.	Other diseases peculiar to early infancy	315	184	131	290	7	2	2
153.	Lack of care	7	4	3	5		1	
XII. OLD AGE		652	351	301	628	5	6	13
154.	Senility	652	351	301	628	5	6	13

by Sex, Race, Nativity and Age Periods, for California: 1913--Continued.

Japanese	White				Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
	Born in California	Born in other states	Foreign born	Unknown									
20	382	1,406	986	58	29	20	25	90	205	317	417	505	1,352
8	62	51	51	2	20	15	9	16	26	26	23	21	27
10	248	1,074	751	49	5	3	14	49	122	214	329	429	1,044
8	21	22	8	2	1	1	3	2	5	9	6	26	
1	9	6	1					3	2	1	6	4	
1	2	89	54	1		1		2	3	4	7	134	
2	5	5						1	1	3	4	4	
4	63	51	3					1	4	4	21	95	
2		1		2	1					1		1	
	1									1			
21	30	14						1	10	26	21	5	8
6	6	7						3	3	4	3	3	3
1	7	17	9					2	7	9	10	2	6
	19	39	15					16	30	23	8	1	
19	109	143	109	6				106	189	100			
5	22	43	14	2				23	50	15			
7	16	12	2					4	22	11			
2	7	7	12					8	13	7			
8	26	33	31					29	43	29			
2	33	36	34	1				34	47	27			
4	4	8						1	5	5			
2	10	4	3	1				7	9	6			
17	54	51	5	8	3	2	4	6	8	13	9	79	
	31	31	8			1		1	5	4	58		
1	6	6						2	1	2	1	6	
4	14	10	2	1		1	2	5	4	6	3	8	
12	3	4	7	3				2	2	1	7		
16	15	13	1	4	3	3	4	3	3	4	11	11	
16	14	10	1	4	3	3	4	3	3	2	10	10	
	1	2								2	1		
		1											1
8	341	10	1	1	344	20	2						
3	19	4		1	14	11	2						
3	257	3	1		261	5							
2	65	3			69	4							
63	1,330	2	1	1	1,444								
35	741	1		1	801								
13	294	1	1		321								
14	290				315								
1	5				7								
7	344	266	11								3	649	
7	344	266	11								3	649	

REPORT OF THE STATE BOARD OF HEALTH.

TABLE 27.—Deaths from Each Specified Disease and Class of Diseases, Classified

Cause of death	Total deaths	Male	Female	White	Negro	Indian	Chinese
XIII. AFFECTIONS PRODUCED BY EXTERNAL CAUSES	3,970	3,254	716	3,737	51	24	65
Murder by poison	138	81	57	136	1		3
Murder by asphyxia	123	93	30	118	1		3
Murder by hanging or strangulation	81	71	10	73	1	1	5
Murder by drowning	32	24	8	29			3
Murder by firearms	364	330	34	346	4		
Murder by cutting or piercing instruments	65	58	7	61			
Murder by jumping from a high place	10	4	6	10			
Murder by crushing	15	15		13			
Other suicides	9	6	3	9			1
Poisoning by food	64	35	29	60		1	2
(Other acute poisonings)	72	41	31	67		1	5
(Conflagration excepted)	68	54	14	61		4	1
Burns (conflagration excepted)	163	88	75	152			4
Absorption of deleterious gases (conflagration excepted)			21	116		2	2
Accidental drowning	125	104	22	308		5	5
Traumatism by firearms	329	307	22	81		1	
Traumatism by cutting or piercing instruments	84	76	8				
Traumatism by fall	6	6		5			3
Traumatism in mines and quarries	369	284	106	358		4	2
Traumatism by machines	70	70		69		1	1
(a) Railroad accidents and injuries	69	67	2	66		1	2
(b) Street car accidents and injuries	346	321	25	334		5	2
(c) Automobile accidents and injuries	143	122	21	134		2	1
(d) Injuries by other vehicles	306	237	69	294		1	2
(e) Landslide, other crushing	159	140	19	151			
Injuries by animals	139	106	33	138		1	4
Starvation	46	42	4	44			
Excessive cold	6	3	3	6			1
Excess of heat	14	13	1	12			4
Lightning	46	31	15	40			1
Electricity (lightning excepted)	1	1		65			3
Homicide by firearms	66	66		176		12	12
Homicide by cutting or piercing instrument	216	183	33				
Homicide by other means	46	40	6	37		2	2
Febrile, cause not specified	51	38	13	45		2	4
Other injuries	12	8	4	12		1	1
	117	109	8	111		1	1
			4				
	10	6	4				
	1	1					
	8	5	3			7	
	1			1		1	
XIV. UNDEFINED DISEASES							
Defined or one disease							
Definite death							
Definite or death ill-defined							
Definite or death not specified, or unknown							

by Sex, Race, Nativity and Age Periods, for California: 1913—Continued.

Japanese	White				Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
	Born in California	Born in other states	Foreign born	Unknown									
93	802	1,243	1,247	445	72	166	193	510	824	722	586	415	482
1	19	60	42	15				22	31	34	24	14	13
1	20	47	36	15				12	17	35	33	18	8
4	10	19	33	11				2	18	19	18	14	10
2	2	8	10	9				4	5	7	6	5	5
9	48	136	107	55				38	97	90	57	42	40
1	8	20	28	5				2	14	11	19	11	8
2	2	4	4							3	3	3	1
2		1	7	5				1	6	5		2	1
	2	1	3	3					2	4		2	1
2	29	14	15	2	8	16	6	6	6	6		10	6
2	28	24	11	4	6	19	3	5	9	11	8	6	5
1	24	14	12	21	5	10	2	2	4	9	9	10	17
6	69	49	28	6	8	56	18	16	21	17	9	4	14
3	34	33	36	13	18	2	3	11	15	18	17	23	18
9	92	67	84	65	2	21	33	55	64	54	60	21	19
2	29	25	20	7			21	18	20	11	5	7	2
1	1	1	3		1				2	1	1	1	
2	45	145	141	27	2	8	15	24	42	50	50	44	134
	5	7	52	5					13	18	9	1	2
	16	20	28	2		1	6	10	21	11	12	5	3
3	38	98	116	82		7	6	44	96	72	57	32	32
5	21	54	40	13	1	4	8	18	21	26	26	17	22
6	87	129	66	12		6	38	65	64	37	36	28	32
5	35	57	49	10	1	3	9	17	37	17	27	24	24
1	15	48	63	12		1	5	16	37	29	21	13	17
1	13	14	14	3		2	7	5	3	9	8	6	6
	1	1	3	1	1				1	1		1	3
	4	6	1	1	1				1	1	4	4	3
2	14	10	10	6	9	3		3	3	8	2	8	10
									1				
1	14	35	12	4		1	2	18	22	15	5	3	
13	40	39	82	15			2	42	67	56	33	15	2
5	7	4	22	4	2			12	19	7	5		1
	14	10	18	3	2		3	8	10	12	9	2	5
	1	6	3	2				2	1	3		1	5
3	25	37	42	7	5	6	6	19	21	16	13	18	13
	5		3			3		1		2	1	2	1
													1
	4		3			3		1		2		2	
	1										1		

TABLE 27.—Deaths from Each Specified Disease and Class of Diseases, Classified

Cause of death	Total deaths	Male	Female	White	Negro	Indian	Chinese
XIII. AFFECTIONS PRODUCED BY EXTERNAL CAUSES	3,970	3,254	716	3,737	51	24	65
155. Suicide by poison	138	81	57	138	1		
156. Suicide by asphyxia	123	93	30	118	1		3
157. Suicide by hanging or strangulation	81	71	10	73	1		3
158. Suicide by drowning	32	24	8	29		1	
159. Suicide by firearms	364	330	34	346	4		5
160. Suicide by cutting or piercing instruments	65	58	7	61			3
161. Suicide by jumping from a high place	10	4	6	10			
162. Suicide by crushing	15	15		13			
163. Other suicides	9	6	3	9			
164. Poisoning by food	64	35	29	60		1	1
165. Other acute poisonings	72	41	31	67		1	2
166. Conflagration	68	54	14	61	1		5
167. Burns (conflagration excepted)	163	88	75	152	4		1
168. Absorption of deleterious gases (conflagration excepted)	125	104	21	116	2		4
169. Accidental drowning	329	307	22	308	5	5	2
170. Traumatism by firearms	84	76	8	81	1		
171. Traumatism by cutting or piercing instruments	6	6		5			
172. Traumatism by fall	369	264	105	358	4	2	3
173. Traumatism in mines and quarries	70	70		69		1	
174. Traumatism by machines	69	67	2	66	1	1	1
175. (a) Railroad accidents and injuries	346	321	25	334	5	2	2
(b) Street car accidents and injuries	143	122	21	134	2	1	1
(c) Automobile accidents and injuries	306	237	69	294	1	2	3
(d) Injuries by other vehicles	159	140	19	151		1	2
(e) Landslide, other crushing	139	106	33	138			
176. Injuries by animals	46	42	4	44	1		
177. Starvation	6	3	3	6			
178. Excessive cold	14	13	1	12		1	1
179. Effects of heat	46	31	15	40			4
180. Lightning	1	1				1	
181. Electricity (lightning excepted)	66	66		65			
182. Homicide by firearms	216	183	33	176	12	3	12
183. Homicide by cutting or piercing instruments	46	40	6	37	2		2
184. Homicide by other means	51	38	13	45	2		4
185. Fractures (cause not specified)	12	8	4	12			
186. Other injuries	117	109	8	111	1	1	1
XIV. ILL-DEFINED DISEASES	10	6	4	8			2
187. Ill-defined organic disease	1	1					1
188. Sudden death							
189. (a) Cause of death ill-defined	8	5	3	7			1
(b) Cause of death not specified, or unknown	1		1	1			

by Sex, Race, Nativity and Age Periods, for California: 1913—Continued.

Japanese	White					Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
	Born in California	Born in other states	Foreign born	Unknown										
98	802	1,243	1,247	445	72	166	193	510	824	722	596	415	482	
1	19	60	42	15				22	31	34	24	14	13	
1	20	47	36	15				12	17	35	33	18	8	
4	10	19	33	11				2	18	19	18	14	10	
2	2	8	10	9				4	5	7	6	5	5	
9	48	136	107	55				38	97	90	57	42	40	
1	8	20	28	5				2	14	11	19	11	8	
2	2	4	4							3	3	3	1	
2		1	7	5				1	6	5		2	1	
	2	1	3	3					2	4		2	1	
2	29	14	15	2	8	16	6	6	6	6		10	6	
2	28	24	11	4	6	19	3	5	9	11	8	6	5	
1	14	14	12	21	5	10	2	2	4	9	9	10	17	
6	69	49	28	6	8	56	18	16	21	17	9	4	14	
3	34	33	36	13	18	2	3	11	15	18	17	23	18	
9	92	67	84	66	2	21	33	55	64	54	60	21	19	
2	29	25	20	7			21	18	20	11	5	7	2	
1	1	1	3		1				2	1	1	1		
2	45	145	141	27	2	8	15	24	42	50	50	44	134	
	5	7	52	5				13	27	18	9	1	2	
	16	20	28	2		1	6	10	21	11	12	5	3	
3	38	98	116	82		7	6	44	96	72	57	32	32	
5	21	54	46	13	1	4	8	18	21	26	26	17	22	
6	87	129	66	12		6	38	65	64	37	36	28	32	
5	35	57	49	10	1	3	9	17	37	17	27	24	24	
1	15	48	63	12		1	5	16	37	29	21	13	17	
1	13	14	14	3		2	7	5	3	9	8	6	6	
	1	1	3	1	1				1	1		1	3	
	4	6	1	1	1				1	1	4	4	3	
2	14	10	10	6	9	3		3	3	8	2	8	10	
									1					
1	14	35	12	4		1	2	18	22	15	5	3		
13	40	39	82	15			2	42	67	55	33	15	2	
	7	4	22	4	2			12	19	7	5		1	
	14	10	18	3	2		3	8	10	12	9	2	5	
	1	6	3	2				2	1	3		1	5	
3	25	37	42	7	5	6	6	19	21	16	13	18	13	
	5		3			3		1		2	1	2	1	
													1	
	4		3			3		1		2		2		
	1										1			

TABLE 28.—Deaths from Each Specified Disease and Class of Diseases.

Cause of death		Total deaths	Male	Female	White	Negro	Indian	Chinese
ALL CAUSES		36,709	22,634	14,075	34,732	543	169	741
I. GENERAL DISEASES		10,477	6,228	4,249	9,805	188	62	280
No.								
1.	Typhoid fever	454	309	145	416	4	1	8
2.	Typhus fever							
3.	Relapsing fever							
4.	Malaria	101	58	43	89		1	8
5.	Smallpox	16	9	7	15	1		
6.	Measles	134	67	67	130		1	2
7.	Scarlet fever	34	13	21	34			
8.	Whooping-cough	193	87	106	178	5	2	2
9.	(a) Diphtheria	188	74	64	137			1
	(b) Croup	20	12	8	20			
10.	Influenza	146	70	76	140	8		1
11.	Miliary fever							
12.	Asiatic cholera							
13.	Cholera nostras	2	1	1	2			
14.	Dysentery	85	47	38	81		1	3
15.	Plague							
16.	Yellow fever							
17.	Leprosy	3	8		3			
18.	Erysipelas	89	48	40	83			3
19.	Other epidemic diseases	8	7	1	8			
20.	Purulent infection and septicæmia	67	45	22	62	1		3
21.	Glanders							
22.	Anthrax							
23.	Rabies	8	6	2	8			
24.	Tetanus	18	13	5	18			
25.	Mycoses	5	2	3	5			
26.	Pellagra	10	3	7	10			
27.	Beriberi	2	2					
<i>Tuberculosis.</i>								
28.	Tuberculosis of the lungs	4,316	2,856	1,460	3,949	110	40	167
29.	Acute miliary tuberculosis	130	81	49	117	5	1	
30.	Tuberculous meningitis	291	159	132	258	4	4	10
31.	Abdominal tuberculosis	222	111	111	202	5	3	4
32.	Pott's disease	42	26	16	40		1	1
33.	White swellings	11	11		10	1		
34.	Tuberculosis of other organs	64	37	27	59	2		1
35.	Disseminated tuberculosis	52	33	19	48	3		1
36.	Ricketts	20	13	7	19			
37.	Syphilis	196	136	60	170	4	2	15
38.	Gonococcus infection	11	8	3	8	1	1	1

Classified by Sex, Race, Nativity, and Age Periods for California: 1912.

Japanese	White				Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
	Born in California	Born in other states	Foreign born	Unknown									
524	9,143	18,617	10,988	1,086	3,942	1,616	977	2,252	8,638	4,062	4,489	4,747	10,988
142	2,605	4,005	2,983	212	412	564	412	1,084	1,658	1,661	1,570	1,389	1,737
25	159	128	119	10	1	85	53	122	106	61	39	19	18
3	28	37	20	4	7	12	9	7	6	15	7	16	22
1	4	7	1	3	29	1	2	3	5	3	2		
1	109	15	6		2	75	16	7	4	2	1		
6	18	13	3		2	17	11	2	2				
6	158	15	5		110	72	8			1			2
	102	30	5		2	67	56	7	1	4	1		
	14	6			4	11	5						
2	25	82	33		16	4	3	2	4	2	9	12	94
	1	1			1								1
	15	45	20	1	4	12	2	1	2	4	7	8	45
			3							1		1	1
2	32	30	17	4	18	4	2	1	6	13	10	13	21
	5	1	2			1	4		1	2			
1	21	27	13	1	2	4	5	11	6	13	11	8	7
	3	2	3				2	2					1
	9	4	5		3		5	1	1		1	1	2
		4	1						1		2		2
	1	7	2					1	1	1	2	4	1
2										2			
50	959	1,668	1,233	89	32	41	81	699	1,135	949	683	401	295
7	42	35	37	3	3	5	10	28	42	22	10	7	3
15	172	46	88	2	53	105	54	20	37	14	3	3	2
8	87	69	44	2	21	32	13	38	38	30	20	18	12
	19	13	7	1		3	6	13	7	7	3	1	2
	5	4	1			1	3	3	2	1		1	
2	19	25	15		3	4	6	8	11	15	7	4	6
	15	18	14	1	1	4	2	5	10	14	10	6	
1	15	3	1		12	6					1		1
5	92	41	33	4	73	7	2	15	22	32	24	15	6
	4	1	3					2	3	3	2		1

TABLE 28.—Deaths from Each Specified Disease and Class of Diseases, Classified

Cause of death		Total deaths	Male	Female	White	Negro	Indian	Chinese
Cancer.								
No.								
39.	Cancer* of the buccal cavity.....	84	72	12	82	1		1
40.	Cancer* of the stomach, liver.....	927	565	362	392	5	2	20
41.	Cancer* of the peritoneum, intestines, rectum.....	294	127	167	286	4		2
42.	Cancer* of the female genital organs.....	323		323	318	5		
43.	Cancer* of the breast.....	181		181	176	4		
44.	Cancer* of the skin.....	68	49	19	68			
45.	Cancer* of other or unspecified organs.....	429	282	147	423	2		4
46.	Other tumors (except of female genital organs).....	5	2	3	5			
47.	Acute articular rheumatism.....	74	33	41	71	2		1
48.	Chronic rheumatism and gout.....	89	42	47	87			2
49.	Scurvy.....	3	3		3			
50.	Diabetes.....	418	213	205	404	6		8
51.	Exophthalmic goitre.....	36	4	32	34	1		1
52.	Addison's disease.....	15	7	8	15			
53.	Leuchæmia.....	57	37	20	56	1		
54.	Anæmia, chlorosis.....	153	76	77	151	1		1
55.	Other general diseases.....	41	23	18	37	2		2
56.	Alcoholism (acute or chronic).....	364	319	45	355	4	2	2
57.	Chronic lead poisoning.....	8	8		8			
58.	Other chronic occupation poisonings.....	1	1		1			
59.	Other chronic poisonings.....	20	18	2	14	1		5
II. DISEASES OF THE NERVOUS SYSTEM		3,267	1,961	1,316	3,140	50	5	45
60.	Encephalitis.....	59	42	17	59			
61.	(a) Simple meningitis.....	164	95	69	148	4		1
	(b) Cerebrospinal meningitis (undefined).....	121	71	50	113	1	1	2
	(c) Cerebrospinal fever.....	23	14	9	22			
62.	Locomotor ataxia.....	77	66	11	74			1
63.	(a) Acute anterior poliomyelitis.....	123	70	53	120	2	1	
	(b) Other diseases of the spinal cord.....	136	83	53	133	1		2
64.	Cerebral hemorrhage, apoplexy.....	1,587	877	710	1,534	21	1	29
65.	Softening of the brain.....	83	53	30	80	1	1	1
66.	Paralysis without specified cause.....	247	146	101	237	6		4
67.	General paralysis of the insane.....	210	148	62	208	4	1	2
68.	Other forms of mental alienation.....	88	38	50	83	3		1
69.	Epilepsy.....	128	96	30	124	3		1
70.	Convulsions (nonpuerperal).....	1	1		1			
71.	Convulsions of infants.....	47	36	11	43	1		
72.	Chorea.....	4	2	2	4			
73.	Neuralgia and neuritis.....	13	5	8	13			
74.	Other diseases of the nervous system.....	115	79	36	112	1		1
75.	Diseases of the eyes and their adnexa.....	4	3	1	4			
76.	Diseases of the ears.....	37	24	13	33	2		

*Cancer and other malignant tumors.

by Sex, Race, Nativity, and Age Periods for California: 1912—Continued.

Japanese	White				Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
	Born in California	Born in other states	Foreign born	Unknown									
8	10	34	36	2		2		1	7	9	19	46	
	75	410	395	12	1	2	3	24	77	179	282	359	
2	32	130	121	3		2	3	12	28	56	83	110	
	54	169	94	1			3	19	61	94	76	70	
1	19	106	49	2				4	37	47	39	54	
	4	27	27					1	4	8	19	36	
	45	261	169	8	2	6	3	21	37	77	98	175	
	1	2	2					1	1		1	2	
	18	28	25		2	2	14	13	8	7	10	11	
	9	40	37	1			1	2	7	3	11	53	
	3				1	2							
	58	204	140	2		3	18	29	22	35	68	156	
	12	15	6	1			1	1	5	9	8	6	
	4	9	2						3	4	2	3	
	23	19	13	1	1	9	5	7	6	4	10	5	
	24	77	49	1	3	3	2	8	6	20	29	47	
	13	12	11	1	5	3	4	3	6	6	4	6	
1	64	121	119	51		1		3	55	106	92	60	
	1	4	3						1	2	2	1	
			1								1	2	
	3	10		1				1	3	1	5	6	
												4	
27	601	1,461	1,014	64	153	176	107	107	135	274	411	532	1,372
	23	23	11	2	5	6	6	9	8	4	9	6	6
11	83	43	20	2	41	43	18	12	13	12	12	6	7
4	76	25	10	2	28	37	18	15	7	5	5	3	3
1	12	6	4		2	6	1	5	2	3	2	1	1
2	13	36	25					1	1	12	22	20	21
	82	30	8		19	61	36	4		2			1
	16	73	41	3	1	3		6	4	15	21	26	60
2	95	816	597	26	7	2	4	8	23	73	190	332	948
	4	29	44	3			1	1		3	5	13	60
	20	130	81	6		1		1	8	17	22	38	160
	32	102	62	7				2	19	63	58	28	40
1	16	30	32	5				7	12	14	25	22	8
	36	51	33	4	2		6	22	24	23	18	13	20
	1							1					
3	41	2			38	9							
	1	1	2								1	2	2
	2	7	4						2	2	1	2	6
1	32	49	29	2	6	3	7	10	8	20	19	15	27
	2	1	1			1				1			2
2	14	7	10	2	4	4	8	4	4	5	2	6	

TABLE 28.—Deaths from Each Specified Disease and Class of Diseases, Classified

Cause of death	Total deaths	Male	Female	White	Negro	Indian	Chinese
III. DISEASES OF THE CIRCULATORY SYSTEM	6,376	3,985	2,391	6,148	68	11	123
No. Pericarditis	60	40	20	54	1		5
78. Acute endocarditis	231	148	83	221	4		3
79. Organic diseases of the heart	4,628	2,857	1,771	4,451	56	11	89
80. Angina pectoris	173	106	65	173			
81. Diseases of arteries, atheroma, aneurysm, etc.	1,107	743	364	1,077	7		23
82. Embolism and thrombosis	147	73	74	145			1
83. Diseases of veins (varices, hæmorrhoids, phlebitis, etc.)	11	5	6	10			1
84. Diseases of lymphatic system (lymphangitis, etc.)	13	6	7	12			
85. Hæmorrhage; other diseases of circulatory system	6	5	1	5			1
IV. DISEASES OF THE RESPIRATORY SYSTEM	3,840	2,281	1,559	3,601	65	25	72
86. Diseases of the nasal fossæ	3	3		3			
87. Diseases of the larynx	21	12	9	20	1		
88. Diseases of the thyroid body	7	1	6	7			
89. Acute bronchitis	202	96	104	186	4	1	1
90. Chronic bronchitis	263	139	124	258	1	1	2
91. Bronchopneumonia	890	493	397	838	11	2	12
92. (a) Lobar pneumonia	1,062	685	407	1,027	19	5	32
(b) Pneumonia (undefined)	986	612	374	908	22	15	20
93. Pleurisy	91	65	26	85	2		2
94. Pulmonary congestion, pulmonary apoplexy	118	71	47	112	3		2
95. Gangrene of the lung	2	1	1	2			
96. Asthma	131	79	52	128	1	1	1
97. Pulmonary emphysema	11	9	2	10			
98. Other diseases of the respiratory system (tuberculosis excepted)	23	13	10	22	1		
V. DISEASES OF THE DIGESTIVE SYSTEM	3,395	1,989	1,406	3,185	48	17	57
99. Diseases of the mouth and adnexa	23	13	10	22	1		
100. Diseases of the pharynx	40	21	19	37	1		1
101. Diseases of the œsophagus	2	2		2			
102. Ulcer of the stomach	131	85	46	121	2		3
103. Other diseases of stomach (cancer excepted)	295	167	128	273	5	5	4
104. Diarrhœa and enteritis (under 2 years)	1,056	592	464	982	8	7	8
105. Diarrhœa and enteritis (2 years and over)	359	192	167	333	6	2	10
106. Ankylostomiasis	2	1	1	2			
107. Intestinal parasites	9	6	3	9			
108. Appendicitis and typhlitis	319	189	130	308	2		3
109. (a) Hernias	108	59	49	96	4		6
(b) Intestinal obstructions	225	124	101	219	3	2	
110. Other diseases of the intestines	58	32	26	55	3		
111. Acute yellow atrophy of the liver	15	5	10	13	2		
112. Hydatid tumor of the liver	1		1	1			
113. Cirrhosis of the liver	452	331	121	422	8		17
114. Biliary calculi	60	20	40	60			
115. Other diseases of the liver	177	110	67	170	2		5
116. Diseases of the spleen	1		1	1			
117. Simple peritonitis (nonpuerperal)	44	27	17	41	1	1	
118. Other diseases of digestive system (except cancer, tuberculosis)	18	13	5	18			

by Sex, Race, Nativity, and Age Periods for California: 1912—Continued.

Japanese	White				Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
	Born in California	Born in other states	Foreign born	Unknown									
26	509	3,012	2,476	151	22	17	82	135	244	451	764	1,159	3,502
7	29	16	2	2			3	4	10	10	6	8	19
3	46	102	70	3	2	6	13	17	33	27	31	39	63
21	390	2,127	1,904	130	14	6	64	103	179	345	620	878	2,419
10	114	49	1	1				1	2	18	15	36	101
32	553	482	10	1				1	9	22	78	166	830
1	13	80	48	4	1	1		7	10	24	11	29	64
3	3	3	3	1	1			1		2	3	2	2
1	8	2	2		3	3	2	1		3			1
		2	3			1			1			1	3
77	1,129	1,223	1,165	79	643	336	82	107	211	284	373	431	1,373
1	1	1	1		1			1	1	1			
14	3	2	1	1	2	8	4	1	5		1		
	4	3					1	1	1	1	2	1	
10	90	34	62		72	29	4	1	2	1	6	15	72
1	24	107	122	5	16	3	1	1		9	15	29	189
27	406	226	196	10	287	130	22	8	34	39	54	68	248
9	286	353	359	29	105	74	20	59	89	132	156	147	310
26	266	346	265	26	151	82	25	28	58	74	95	124	349
2	15	80	38	2	2	4	1	6	12	11	19	9	27
1	12	50	49	1	6	3	2			3	10	9	85
		1	1							1	1		
	12	56	55	5		2	1	1	4	9	11	24	79
1	1	7	2		1	1	1					1	7
	2	10	10					1	5	3	3	4	7
88	1,467	898	785	40	976	320	79	148	199	291	361	364	657
13	4	5	5	5	7	7	1		4			2	4
1	16	14	5	2	2	7	8	6	5	3	4	4	1
	1	1	1			1						1	
5	22	54	41	4		1		9	16	19	29	28	29
8	66	112	92	3	36	11	7	5	17	20	37	37	125
51	940	28	14		883	173							
8	90	146	93	4		85	11	15	10	23	36	39	140
1	1	1								1			1
2	-	-	5	1	1			4	2	1	1		
6	120	113	73	2	1	12	36	64	59	72	39	17	19
2	10	31	52	3	5	3		2	3	9	21	21	44
1	66	82	68	3	30	13	10	17	18	24	30	24	59
	8	20	24	3	3	1	1	3	8	6	12	12	12
	1	5	7		1			1	2	3	1	1	6
		1										1	
5	58	150	204	10	3		2	3	26	75	107	110	126
	5	34	20	1					4	7	8	17	24
	33	75	61	1	6	3	2	9	16	18	23	40	60
	1	1	1			1							
1	9	19	12	1		2	1	10	6	3	8	7	7
	5	4	7	2					3	7	5	3	

TABLE 28.—Deaths from Each Specified Disease and Class of Diseases, Classified

Cause of death	Total deaths	Male	Female	White	Negro	Indian	Chinese
VI. DISEASES OF THE GENITO-URINARY SYSTEM	2,711	1,692	1,019	2,583	41	8	50
119. Acute nephritis	130	80	50	121	2	1	2
120. Bright's disease	2,055	1,327	728	1,958	32	5	51
121. Chyluria							
122. Other diseases of the kidneys and adnexa	63	40	23	63			
123. Calculi of the urinary passages	9	7	2	8			1
124. Diseases of the bladder	132	121	11	129			2
125. Diseases of the urethra, urinary abscess, etc.	8	7	1	8			
126. Diseases of the prostate	102	102		100		1	1
127. Nonvenereal diseases of male genital organs	8	8		7			
128. Uterine hæmorrhage (nonpuerperal)							
129. Uterine tumor (noncancerous)	62		62	59	3		
130. Other diseases of the uterus	41		41	36	1	1	2
131. Cysts and other tumors of the ovary	34		34	34			
132. Salpingitis and other diseases of female genital organs	67		67	60	3		
133. Nonpuerperal diseases of the breast (cancer excepted)							
VII. THE PUERPERAL STATE	363		363	347	3	1	
134. Accidents of pregnancy	74		74	69			
135. Puerperal hæmorrhage	46		46	43	2		
136. Other accidents of labor	24		24	22	1		
137. Puerperal septicæmia	93		93	92			
138. Puerperal albuminuria and convulsions	102		102	99		1	
139. Puerperal phlegmasia alba dolens, embolus, sudden death	1		1	1			
140. Following childbirth (not otherwise specified)	23		23	21			
141. Puerperal diseases of the breast							
VIII. DISEASES OF THE SKIN	138	86	52	132	3	1	
142. Gangrene	63	44	19	62		1	
143. Furuncle	17	10	7	16			
144. Acute abscess	32	20	12	29	2		
145. Other diseases of the skin and adnexa	26	12	14	25	1		
IX. DISEASES OF THE BONES	55	31	24	55			
146. Diseases of the bones (tuberculosis excepted)	46	28	18	46			
147. Diseases of the joints (exclusive of tuberculosis and rheumatism)	4	2	2	4			
148. Amputations	2	1	1	2			
149. Other diseases of the organs of locomotion	3		3	3			
X. MALFORMATIONS	293	192	101	280	2	2	1
150. (a) Hydrocephalus	34	24	10	33	1		
(b) Congenital malformation of heart	190	133	66	190		2	1
(c) Other congenital malformations	60	35	25	57	1		
XI. DISEASES OF EARLY INFANCY	1,369	771	598	1,300	14	5	7
151. (a) Premature birth	795	445	350	757	8	2	6
(b) Congenital debility, "atrophy," "marasmus," etc.	283	156	127	267	3	2	
152. Other diseases peculiar to early infancy	283	164	119	268	3	1	1
153. Lack of care	8	6	2	8			

TABLE 28.—Deaths from Each Specified Disease and Class of Diseases, Classified

Cause of death	Total deaths	Male	Female	White	Negro	Indian	Chinese
XII. OLD AGE	651	342	309	629	8	7	7
No. 154. Senility	651	342	309	629	8	7	7
XIII. AFFECTIONS PRODUCED BY EXTERNAL CAUSES	3,755	3,072	683	3,512	52	25	89
155. Suicide by poison	145	110	35	141	1		2
156. Suicide by asphyxia	98	70	23	92	1		
157. Suicide by hanging or strangulation	82	68	14	68			8
158. Suicide by drowning	34	24	10	33	1		
159. Suicide by firearms	349	318	31	332	5		3
160. Suicide by cutting or piercing instruments	72	68	4	65	1		2
161. Suicide by jumping from a high place	13	8	5	12			1
162. Suicide by crushing	9	8	1	9			
163. Other suicides	6	3	3	6			
164. Poisoning by food	79	46	33	73	3		
165. Other acute poisonings	70	30	40	67			1
163. Conflagration	69	50	19	57	3	3	6
167. Burns (conflagration excepted)	154	83	71	146	3	1	2
168. Absorption of deleterious gases (conflagration excepted)	117	95	22	112	4		1
169. Accidental drowning	318	290	28	300	3	1	3
170. Traumatism by firearms	92	83	9	87		4	
171. Traumatism by cutting or piercing instruments	16	13	3	14			2
172. Traumatism by fall	374	252	122	366	4	1	2
173. Traumatism in mines and quarries	56	56		55		1	
174. Traumatism by machines	78	78		71	1	1	2
175. (a) Railroad accidents and injuries	355	325	30	340	1	5	4
(b) Street car accidents and injuries	110	81	29	102	3		2
(c) Automobile accidents and injuries	194	143	51	189	1		3
(d) Injuries by other vehicles	152	139	13	137	2	1	3
(e) Landslide, other crushing	69	69		67	1	1	
176. Injuries by animals	67	64	3	62	1		1
177. Starvation	11	9	2	9	1	1	
178. Excessive cold	10	9	1	10			
179. Effects of heat	17	14	3	17			
180. Lightning	2	2		2			
181. Electricity (lightning excepted)	50	49	1	50			
182. Homicide by firearms	243	209	34	190	8	1	35
183. Homicide by cutting or piercing instruments	47	41	6	45	1		
184. Homicide by other means	53	36	17	50	1		1
185. Fractures (cause not specified)	9	5	4	9			
186. Other injuries	140	124	16	127	2	4	5
XIV. ILL-DEFINED DISEASES	19	14	5	15	1		1
187. Ill-defined organic disease	3	1	2	3			
188. Sudden death							
189. (a) Cause of death ill-defined	9	6	3	8			
(b) Cause of death not specified, or unknown	7	7		4	1		1

by Sex, Race, Nativity, and Age Periods for California: 1912—Continued.

Japanese	White				Under 1 year	1 to 4 years	5 to 14 years	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
	Born in California	Born in other states	Foreign born	Unknown									
	3	327	290	9								10	641
	3	327	290	9								10	641
77	780	1,121	1,186	425	57	162	171	461	820	701	573	357	453
1	29	42	41	29				19	36	33	30	12	15
	9	33	32	18				5	15	26	31	8	8
6	8	17	34	9				7	12	22	18	13	10
	8	8	12	5				3	5	9	5	12	
9	49	129	108	46			1	29	105	75	65	42	32
4	7	25	24	9				3	11	26	17	9	6
	1	4	7						6	3	1	1	2
		2	1	6					5	1	3		
	2	1	1	2					1	2		2	1
3	39	20	18	1	12	18	10	4	5	11	7	5	7
2	31	21	11	4	3	17	1	8	18	11	7	3	2
	11	11	26	9		8	2	3	9	12	12	7	16
2	63	43	32	8	6	49	19	9	18	15	15	8	15
	25	24	50	13	10			8	30	13	15	19	22
11	83	63	90	64	2	18	24	61	68	55	58	19	13
1	37	33	15	2		4	20	34	17	8	5	2	2
	3	4	4	3		1	1	1	2	1	5	4	1
1	60	158	123	16	6	17	20	23	34	41	37	43	153
	12	8	31	4				8	18	15	9	3	3
3	17	20	32	2			1	19	26	21	8	2	1
5	45	104	104	87	2	4	12	46	95	80	50	29	37
3	15	39	41	7		3	9	10	16	19	17	17	19
1	51	89	37	13		5	17	42	36	26	27	21	20
9	32	45	50	10		10	13	17	21	25	35	11	20
	15	15	34	3		1	2	11	16	22	8	9	
3	16	19	22	5	1	1	5	7	18	8	11	14	7
	3	1	3	2	2				1	1	1	3	3
	2	1	3	4					1	3	3	1	2
	6	3	7	1	3				2	3	2	2	3
			2						1	1			
	10	25	12	3				10	24	8	6	2	
9	38	46	86	20	1		3	32	88	64	25	21	9
1	7	11	22	5			1	12	17	10	5	2	
1	11	16	16	7	5		1	5	16	9	11	2	4
		2	6	1		1			1	2			5
2	26	40	54	7	4	5	9	22	32	20	24	9	15
2	4	2	5	4		1			3	4	5	5	1
	1	2								1		1	1
1	3		4	1		1			2	1	3	2	
1			1	3					1	2	2	2	

TABLE 29.—Deaths from Certain Principal Causes, with Proportion

Cause of death	The State	Northern					
		Coast counties					
		Del Norte	Humboldt	Lake	Mendocino	Napa	Sonoma
Deaths.							
ALL CAUSES	38,599	30	422	97	325	535	735
Typhoid fever	436		5		3	7	6
Malarial fever	77						2
Smallpox	15						
Measles	154						
Scarlet fever	85		1				
Whooping-cough	128	1	1			1	4
Diphtheria and croup	186		1		1	1	3
Influenza	220		2	1			6
Plague	2						
Other epidemic diseases	180		4	2	1	4	7
Tuberculosis of lungs	4,536	4	30	12	40	71	61
Tuberculosis of other organs	866		8	1	7	9	9
Cancer	2,565	1	34	5	13	23	30
Other general diseases	1,733	2	19	3	11	23	30
Meningitis	405	3	5	1	3	3	10
Other diseases of nervous system	3,315	3	34	6	32	84	69
Diseases of circulatory system	6,281	4	81	17	47	128	133
Pneumonia and broncho-pneumonia	2,938	2	27	9	20	31	77
Other diseases of respiratory system	868		8	7	8	9	17
Diarrhoea and enteritis, under 2 years	1,270		8	3	10	1	15
Diarrhoea and enteritis, 2 years and over	369		7	2	2	7	8
Other diseases of digestive system	1,995	1	21	8	25	24	43
Bright's disease and nephritis	2,392	5	19	4	21	34	46
Childbirth	395		4	1	4	4	3
Diseases of early infancy	1,444		13	3	13	3	29
Suicide	837	1	12	2	2	9	12
Other violence	3,133	2	58	3	46	22	67
All other causes	1,774	1	20	7	16	37	28
Proportion per 1,000 Total Deaths.							
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	11.3		11.8		9.2	13.1	8.2
Malarial fever	2.0						2.7
Smallpox	0.4						
Measles	4.0						
Scarlet fever	2.2		2.4				
Whooping-cough	3.3	33.4	2.4			1.9	5.4
Diphtheria and croup	4.8		2.4		3.1	1.9	4.1
Influenza	5.7		4.7	10.3			8.2
Plague	*						
Other epidemic diseases	4.7		9.5	20.6	3.1	7.5	9.5
Tuberculosis of lungs	117.5	133.3	71.1	123.7	123.1	132.7	83.0
Tuberculosis of other organs	22.4		19.0	10.3	21.5	16.8	12.2
Cancer	66.4	33.3	80.6	51.6	40.0	43.0	68.0
Other general diseases	44.9	66.7	45.0	30.9	33.9	43.0	40.8
Meningitis	10.5	100.0	11.8	10.3	9.2	5.6	13.6
Other diseases of nervous system	85.9	100.0	80.6	61.9	98.5	157.0	93.9
Diseases of circulatory system	162.7	133.3	191.9	175.3	144.6	239.2	181.0
Pneumonia and broncho-pneumonia	76.1	66.7	64.0	92.8	61.5	57.9	104.7
Other diseases of respiratory system	22.5		19.0	72.2	24.6	16.8	23.1
Diarrhoea and enteritis, under 2 years	32.9		18.9	30.9	30.8	1.9	20.4
Diarrhoea and enteritis, 2 years and over	9.6		16.6	20.6	6.2	13.1	10.9
Other diseases of digestive system	51.7	33.3	49.8	82.5	76.9	44.9	58.5
Bright's disease and nephritis	62.0	166.7	45.0	41.2	64.6	63.5	62.6
Childbirth	10.2		9.5	10.3	12.3	7.5	4.1
Diseases of early infancy	37.4		30.8	30.9	40.0	5.6	39.5
Suicide	21.7	33.3	28.4	20.6	6.2	16.8	16.3
Other violence	81.2	66.7	137.4	30.9	141.5	41.1	91.2
All other causes	46.0	33.3	47.4	72.2	49.2	69.2	38.1

*Less than one tenth of 1 per thousand.

per 1,000 Total Deaths, for Counties Arranged Geographically: 1913.

California

Interior counties												
Trinity	Butte	Colusa	Glenn	Lassen	Modoc	Nevada	Placer	Plumas	Shasta	Sierra	Siskiyou	Sutter
43	367	87	63	74	46	235	301	59	192	46	205	76
	8	3		3	3	3	3	1	1		1	1
	6		1				3		4			1
							1				9	
	1						2		1		1	2
	3	2				1	1				1	1
	6					1					2	
	2	1	1	2		1	5	1	2			1
3	32	4	2	6	2	24	43	2	20	2	20	6
	8		1	1		2	4		2		2	
2	14	8	5	1	1	11	15	4	5		12	3
1	21	4	6	5	5	16	18	2	2	2	9	3
	2					2	3		3			1
2	24	8	8	6	3	30	16	6	11	3	21	2
9	54	14	11	7	9	37	34	10	34	7	31	11
4	27	4	5	12	2	10	32	3	18	3	8	6
3	4	1	2			4	7	2	5	2	2	4
	10	4	1	3	1	3	5		6		5	5
	7	2				2	7		1		2	2
3	24	3	4	2	5	15	8	2	6	6	14	2
4	30	9	3	3	2	7	19	1	11	4	12	6
1	2	2	2		2	4	4		2	1	5	
1	18	2	2	1	4	14	10	3	8	2	4	1
	10	3	2	5	2	2	4	5	2	1	4	2
6	34	6	6	11	2	31	42	9	36	7	21	9
4	20	7	1	5	3	15	15	8	12	6	17	9
1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
	21.8				65.2	12.3	10.0	17.0	5.2		4.9	13.2
	16.3	34.5	15.9				10.0		20.8			13.2
							3.3				43.9	
	2.7										9.8	
				13.5			6.6		5.2		4.9	
	8.2	23.0				4.3	3.3				4.9	13.2
	16.3					4.3					9.8	
	5.5	11.5	15.9	27.0		4.3	16.6	17.0	10.4			13.2
69.8	87.2	46.0	31.8	81.1	43.5	102.1	142.8	33.9	104.2	43.5	97.6	78.9
	21.8		15.9	13.5		8.5	13.3		10.4		9.8	
46.5	38.1	91.9	79.4	13.5	21.7	46.8	49.8	67.8	26.0		58.5	39.5
23.3	57.2	46.0	95.2	67.6	108.7	68.1	59.8	33.9	10.4	43.5	43.9	39.5
	5.5					8.5	10.0		15.6			13.2
46.5	65.4	91.9	127.0	81.1	65.2	127.6	53.2	101.7	57.3	65.2	102.4	26.3
209.3	147.1	160.9	174.6	94.6	195.6	157.4	113.0	169.5	177.1	152.2	151.2	144.7
93.0	73.6	46.0	79.4	162.2	43.5	42.6	106.3	50.8	93.8	65.2	39.0	78.9
69.8	10.9	11.5	31.7			17.0	23.3	33.9	26.0	43.5	9.8	52.6
	27.3	46.0	15.9	40.5	21.7	12.8	16.6		31.3		24.4	65.8
	19.1	23.0				8.5	23.3		5.2		9.7	26.3
69.8	65.4	34.5	63.5	27.0	108.7	63.8	26.6	33.9	31.3	130.4	68.3	26.3
93.0	81.7	103.4	47.6	40.5	43.5	29.8	63.1	17.0	57.3	87.0	58.5	78.9
23.3	5.5	23.0	31.7		43.5	17.0	13.3		10.4	21.7	24.4	
23.2	49.0	23.0	31.7	13.5	87.0	59.6	33.2	50.8	41.7	43.5	19.5	13.2
	27.3	34.5	31.7	67.6	43.5	8.5	13.3	84.7	10.4	21.7	19.5	26.3
139.5	92.6	69.0	95.2	148.6	43.5	131.9	139.5	152.5	187.5	152.2	102.4	118.4
93.0	54.5	80.4	15.9	67.6	65.2	63.8	49.8	135.6	62.5	130.4	82.9	118.4

TABLE 29.—Deaths from Certain Principal Causes, with Proportion per

Cause of death	Northern California—Cont.		Central				
	Interior counties—Continued		San Francisco	Other bay counties			
	Tehama	Yuba		Alameda	Contra Costa	Marin	San Mateo
Deaths.							
ALL CAUSES	143	186	7,002	3,613	396	278	315
Typhoid fever.....	2	1	71	34	13		2
Malarial fever.....	4	1	6	3	2		
Smallpox.....				4			
Measles.....			8	3			1
Scarlet fever.....		1	16	3			1
Whooping-cough.....	1		17	3			1
Diphtheria and croup.....			29	28	1	1	1
Influenza.....	1	2	11	12	1		1
Plague.....					1		
Other epidemic diseases.....		2	25	9			1
Tuberculosis of lungs.....	14	11	685	319	27	39	36
Tuberculosis of other organs.....	1	1	195	81	4	3	7
Cancer.....	7	12	573	310	13	23	19
Other general diseases.....	6	11	355	172	13	11	15
Meningitis.....		4	56	26	2		7
Other diseases of nervous system.....	20	8	484	325	31	20	35
Diseases of circulatory system.....	35	28	1,443	639	65	56	40
Pneumonia and broncho-pneumonia.....	10	14	509	339	32	14	29
Other diseases of respiratory system.....	1	5	153	92	4	5	7
Diarrhoea and enteritis, under 2 years.....	1	3	143	109	18	11	14
Diarrhoea and enteritis, 2 years and over.....	4	3	46	24	3	1	1
Other diseases of digestive system.....	5	9	436	180	19	17	14
Bright's disease and nephritis.....	5	16	426	232	22	19	12
Childbirth.....	1		74	33	5	2	4
Diseases of early infancy.....	4	7	195	137	25	12	15
Suicide.....	2	3	220	91	15	8	11
Other violence.....	11	34	454	214	76	27	29
All other causes.....	8	10	282	141	4	6	15
Proportion per 1,000 Total Deaths.							
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever.....	14.0	5.4	10.1	9.4	32.8		6.4
Malarial fever.....	28.0	5.4	0.9	0.8	5.1		
Smallpox.....				1.1			
Measles.....			1.1	0.8			3.6
Scarlet fever.....		5.4	2.3	0.8			3.6
Whooping-cough.....	7.0		2.4	0.8			3.6
Diphtheria and croup.....			4.1	7.8	2.5	3.6	3.2
Influenza.....	7.0	10.8	1.6	3.3	2.5		3.2
Plague.....					2.5		
Other epidemic diseases.....		10.8	3.6	2.5			3.2
Tuberculosis of lungs.....	97.9	59.1	97.8	88.3	68.2	140.3	114.3
Tuberculosis of other organs.....	7.0	5.4	27.9	22.4	10.1	10.8	22.2
Cancer.....	48.9	64.5	81.8	85.8	32.8	82.7	60.3
Other general diseases.....	42.0	59.1	50.7	47.6	32.8	39.6	47.6
Meningitis.....		21.5	8.0	7.2	5.1		22.2
Other diseases of nervous system.....	139.8	43.0	69.1	90.0	78.3	71.9	111.1
Diseases of circulatory system.....	244.7	150.5	203.1	190.7	164.1	201.4	127.0
Pneumonia and broncho-pneumonia.....	69.9	75.3	85.6	93.8	80.8	50.4	92.1
Other diseases of respiratory system.....	7.0	26.9	21.9	25.5	10.1	18.0	22.2
Diarrhoea and enteritis, under 2 years.....	7.0	16.1	20.4	30.2	45.5	39.6	44.4
Diarrhoea and enteritis, 2 years and over.....	28.0	16.1	6.6	6.7	7.6	3.6	3.2
Other diseases of digestive system.....	35.0	48.4	62.3	49.8	48.0	61.1	44.4
Bright's disease and nephritis.....	35.0	86.0	60.8	64.2	56.6	68.3	38.1
Childbirth.....	7.0		10.6	9.2	12.6	7.2	12.7
Diseases of early infancy.....	28.0	37.6	27.8	37.9	63.1	43.2	47.6
Suicide.....	14.0	16.1	31.4	25.2	37.9	28.8	34.9
Other violence.....	76.9	182.8	64.8	59.2	191.9	97.1	92.1
All other causes.....	55.9	53.8	40.3	39.0	10.1	21.6	47.6

1,000 Total Deaths, for Counties Arranged Geographically: 1913—Continued.

California

Coast counties					Interior counties							
Monterey	San Benito	San Luis Obispo	Santa Clara	Santa Cruz	Alpine	Amador	Calaveras	El Dorado	Fresno	Inyo	Kern	Kings
320	92	205	1,444	370	8	152	111	119	1,106	44	524	203
5	1	3	13	1	1	2	1	1	23	1	14	4
			1			3	4		5		2	3
2		1	3	2					10		3	2
									23		9	
1		1	5	1					1		1	1
	1		4			2			11		5	
6	2		10	3		1	1	3	6	1	3	5
	1											
2		1	7			1			9		2	
24	11	27	142	43		21	7	9	123	2	66	20
10	1	4	41	8		4			31		10	5
16	6	11	103	23		9	8	4	66	2	17	9
16	2	10	59	9		4	9	2	39	2	28	3
2		1	10	3		2			18		1	3
48	9	18	186	35		12	11	10	67	6	33	18
49	23	48	270	78		8	15	21	121	5	50	19
26	5	14	93	27	1	6	9	9	66	7	43	21
10	1	4	40	10		7	7	4	13		10	
13	2	6	47	13		6			93	1	24	11
5		2	19	7		1	2	1	12	1	8	
13	4	15	60	16	1	12	10	5	78	2	32	11
25	5	3	80	23		13	8	13	56	5	20	9
1		2	16	4		1		2	24		4	4
9	3	4	45	14		8	6	5	64	2	31	21
4	3	2	22	7		4	1	5	10	2	17	3
23	7	20	81	25		18	6	11	86	2	77	19
10	5	8	82	18		7	6	14	46	3	14	12
1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
15.6	10.9	14.6	9.0	2.7	333.4	13.2	9.0	8.4	20.8	22.7	26.7	19.7
			0.7			19.7	36.0		4.5		3.8	14.8
6.3		4.9	2.1	5.4					9.0		5.7	9.9
									20.8		17.2	
3.1		4.9	3.5	2.7					0.9		1.9	4.9
	10.9		2.8			13.2			9.9		9.5	
18.8	21.7		6.9	8.1		6.6	9.0	25.2	5.4	22.7	5.7	24.6
	10.9											
6.3		4.9	4.8			6.6			8.1		3.8	
75.0	119.6	131.7	98.3	116.2		138.1	63.1	75.6	115.7	45.5	125.9	98.5
31.3	10.9	19.5	23.4	21.6		26.3			28.0		19.1	24.6
50.0	65.2	53.7	74.8	62.2		59.2	72.1	33.6	59.7	45.5	32.5	44.3
50.0	21.7	43.8	40.9	24.3		26.3	81.1	16.8	35.3	45.5	53.4	14.8
6.3		4.0	6.9	8.1		13.2			16.3		1.9	14.8
150.0	97.8	87.8	128.8	94.6		78.9	99.1	84.0	60.6	136.4	63.0	88.7
153.1	250.0	234.1	187.0	210.8		52.6	135.1	176.5	109.4	113.6	96.4	93.6
81.3	54.4	68.3	64.4	73.0	333.3	39.5	81.1	75.6	59.7	159.1	82.1	108.5
31.2	10.9	19.5	27.7	27.0		46.1	63.1	33.6	11.8		19.1	
40.6	21.7	29.3	32.5	35.1		39.5			84.1	22.7	45.8	54.2
15.6		9.8	13.2	13.9		6.6	18.0	8.4	10.9	22.7	15.3	
40.6	43.5	73.2	41.5	43.3	333.3	78.9	90.1	42.0	70.5	45.5	61.1	54.2
73.1	54.3	14.6	56.4	62.2		85.5	72.1	109.3	50.6	113.6	38.2	44.3
3.1		9.7	11.1	10.8		6.6		16.8	21.7		7.6	19.7
23.1	32.6	19.5	31.2	37.8		52.6	54.1	42.0	57.9	45.5	59.2	103.4
12.5	32.6	9.7	15.2	13.9		26.3	9.0	42.0	9.0	45.4	32.5	14.8
71.9	76.1	97.6	56.1	67.6		118.4	54.0	92.5	77.8	45.4	146.9	93.6
31.2	54.3	39.0	56.8	48.7		46.1	54.0	117.7	41.6	68.2	26.7	59.1

TABLE 29.—Deaths from Certain Principal Causes, with Proportion per

Cause of death	Central California					
	Interior counties					
	Madera	Mariposa	Merced	Mono	Sacramento	San Joaquin
Deaths.						
ALL CAUSES	103	28	186	5	1,301	954
Typhoid fever	1		2		35	14
Malarial fever			2		10	1
Smallpox						1
Measles	1		1		1	1
Scarlet fever					5	1
Whooping-cough					3	4
Diphtheria and croup			1		6	2
Influenza	1		1		4	4
Plague						
Other epidemic diseases					9	8
Tuberculosis of lungs	11	1	18		155	136
Tuberculosis of other organs	1		8		31	30
Cancer	12	4	7		80	51
Other general diseases	2	1	6		73	38
Meningitis			4		17	14
Other diseases of nervous system	7	1	6		89	122
Diseases of circulatory system	16	4	25	3	162	103
Pneumonia and broncho-pneumonia	6	2	24	1	108	63
Other diseases of respiratory system	1	1	4		23	18
Diarrhœa and enteritis, under 2 years	3		16		58	12
Diarrhœa and enteritis, 2 years and over	1	2	2		10	10
Other diseases of digestive system	4	3	10		76	43
Bright's disease and nephritis	4	1	1		77	73
Childbirth	1		2		18	6
Diseases of early infancy	8		7	1	58	26
Suicide	1		7		21	20
Other violence	17	6	22		125	88
All other causes	5	2	10		47	57
Proportion per 1,000 Total Deaths.						
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	9.7		10.8		26.9	14.7
Malarial fever			10.7		7.7	1.0
Smallpox						1.0
Measles	9.7		5.4		0.8	1.0
Scarlet fever					3.8	1.0
Whooping-cough					2.3	4.2
Diphtheria and croup			5.4		4.6	2.1
Influenza	9.7		5.4		3.1	4.2
Plague						
Other epidemic diseases					6.9	8.4
Tuberculosis of lungs	106.8	35.7	95.8		119.1	144.7
Tuberculosis of other organs	9.7		43.0		23.8	31.4
Cancer	116.5	142.9	37.6		61.5	53.5
Other general diseases	19.4	35.7	32.3		56.1	39.8
Meningitis			21.5		13.1	14.7
Other diseases of nervous system	68.0	35.7	32.3		68.4	134.2
Diseases of circulatory system	155.3	142.9	134.4	600.0	124.5	108.0
Pneumonia and broncho-pneumonia	58.3	71.4	129.0	200.0	83.0	66.0
Other diseases of respiratory system	9.7	35.7	21.5		17.7	18.9
Diarrhœa and enteritis, under 2 years	29.1		86.0		44.6	12.6
Diarrhœa and enteritis, 2 years and over	9.7	71.4	10.7		7.7	10.5
Other diseases of digestive system	38.8	107.2	53.8		58.4	45.1
Bright's disease and nephritis	38.8	35.7	5.4		59.2	76.5
Childbirth	9.7		10.7		13.8	6.3
Diseases of early infancy	77.7		37.6	200.0	44.6	27.3
Suicide	9.7		37.6		16.2	21.0
Other violence	165.1	214.3	118.3		96.1	92.2
All other causes	48.6	71.4	53.8		36.1	59.7

1,000 Total Deaths, for Counties Arranged Geographically: 1913—Concluded.

—Continued					Southern California							
—Continued					Los Angeles	Other counties						
Solano	Stanislaus	Tulare	Fresno	Yolo		Imperial	Orange	Riverside	San Bernardino	San Diego	Santa Barbara	Ventura
371	330	415	133	179	9,705	266	541	480	1,048	1,397	853	260
3	10	5	1	2	67	12	10	7	9	16	1	
		4		4	5							
						10						
3	2	5			73	6	5	1	5	3	1	1
		3			18			1				
	2	1	1		47	1	11	2	7	1	3	
2	1	3	1		57	1		3	6	4		1
3	3	2	7	6	71	1	6	5	4	11	2	2
2	2	2	1		44		3	1	9	6		
26	30	46	9	12	1,446	39	56	86	210	186	36	16
4	12	8	2	3	190	13	8	16	29	42	4	5
25	17	17	8	11	647	2	42	28	42	85	29	15
11	17	19	7	12	427	5	26	13	39	66	11	12
2	5	1		1	146	1	11	6	9	11	3	3
29	22	37	8	12	908	14	52	32	137	118	49	22
76	48	55	15	27	1,472	19	60	47	126	198	54	30
27	25	33	16	16	674	9	30	23	69	92	24	32
7	8	11	5	4	223	6	10	10	21	40	14	4
22	13	23		3	301	27	39	26	48	52	13	19
3	3	6	4	1	82	1	5	6	14	20	7	3
19	17	25	5	10	452	11	22	19	28	68	17	11
16	15	18	14	6	688	9	34	29	42	103	17	13
2	3	4	1	3	99	2	10		6	13	2	5
15	23	25	2	6	357	8	18	17	38	60	21	16
8	3	9	2	4	176	4	11	9	18	27	4	3
57	26	36	19	24	655	55	50	51	88	110	28	38
9	23	17	5	12	480	10	22	22	44	65	13	9
1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
8.1	30.3	12.1	7.5	11.2	6.9	45.1	18.5	15.2	8.6	11.5	2.8	
		9.6		22.4	0.5							
						37.6						
8.1	6.1	12.1			7.5	22.6	9.2	2.2	4.8	2.2	2.8	3.9
		7.2			1.9			2.2				
	6.1	2.4	7.5		4.8	3.8	20.3	4.3	6.7	0.7	8.5	
5.4	3.0	7.2	7.5		5.9	3.8		6.5	5.7	2.9		3.9
8.1	9.1	4.8	52.6	33.5	7.3	3.8	11.1	10.9	3.8	7.9	5.7	7.7
5.4	6.1	4.8	7.5		4.5		5.5	2.2	8.6	4.3		
70.1	90.9	110.8	67.7	67.0	149.0	146.6	103.5	186.9	200.4	133.1	102.0	61.5
10.8	36.4	19.3	15.0	16.8	19.6	48.9	14.8	34.8	27.7	30.1	11.3	19.2
67.4	51.5	41.0	60.2	61.5	66.7	7.5	77.6	60.9	40.1	60.9	82.1	57.7
29.6	51.5	45.8	52.6	67.0	44.0	18.8	48.1	28.3	37.2	47.3	31.2	43.2
5.4	15.1	2.4		5.6	15.0	3.8	20.3	13.0	8.6	7.9	8.5	11.5
78.1	66.7	89.2	60.2	67.0	83.3	52.6	96.1	69.6	130.7	84.5	138.8	84.6
204.8	145.4	132.5	112.8	150.8	151.7	71.4	110.9	102.2	120.2	141.7	153.0	115.4
72.8	75.8	79.5	120.3	89.4	69.4	33.8	55.5	50.0	65.8	65.9	68.0	123.1
18.9	24.2	26.5	37.6	22.3	23.0	22.6	18.5	21.7	20.0	28.6	39.7	15.4
59.3	39.4	55.4		16.8	31.0	101.5	72.1	56.5	45.8	37.2	36.8	73.1
8.1	9.1	14.5	30.1	5.6	8.4	3.8	9.2	13.0	13.3	14.3	19.8	11.5
51.2	51.5	60.2	37.6	55.9	46.6	41.3	40.7	41.3	26.7	48.7	48.2	42.3
45.1	45.4	43.4	106.3	33.5	70.9	33.8	62.9	63.0	40.1	73.7	48.2	50.0
	5.4	9.1	9.6	7.5	16.8	10.2	7.5	18.5	5.7	9.1	5.7	19.2
40.4	69.7	60.2	15.0	33.5	36.8	30.1	33.3	37.0	36.3	43.0	59.5	61.5
21.6	9.1	21.7	15.0	22.3	18.1	15.0	20.3	19.6	17.2	19.3	11.3	11.5
153.6	78.8	86.8	142.9	134.1	67.5	206.7	92.4	110.9	84.0	78.7	79.3	146.2
24.3	69.7	41.0	37.6	67.0	49.5	37.6	40.7	47.8	42.0	46.5	36.8	34.6

TABLE 30.—Deaths from Certain Principal Causes, with Proportion

Cause of death	The State	Northern					
		Coast counties					
		Del Norte	Humboldt	Lake	Mendocino	Napa	Sonoma
Deaths.							
ALL CAUSES	36,709	31	391	100	332	528	712
Typhoid fever	454		8	3	3	3	8
Malarial fever	101						2
Smallpox	16						
Measles	134						6
Scarlet fever	34		1			3	
Whooping-cough	193						2
Diphtheria and croup	158				1		1
Influenza	146				1		4
Other epidemic diseases	186		1	1	1	6	10
Tuberculosis of lungs	4,316	2	35	8	32	65	77
Tuberculosis of other organs	812	1	7	1	6	8	17
Cancer	2,306		26	6	13	28	43
Other general diseases	1,621	1	22	7	17	17	33
Meningitis	308		3		3	1	7
Other diseases of nervous system	2,959	3	24	4	41	103	71
Diseases of circulatory system	6,376	8	76	24	52	106	137
Pneumonia and broncho-pneumonia	2,968	2	29	9	25	43	69
Other diseases of respiratory system	872		6	3	4	8	15
Diarrhoea and enteritis, under 2 years	1,056		9	3	6	8	4
Diarrhoea and enteritis, 2 years and over	359	1	1	2	3	3	6
Other diseases of digestive system	1,980		16	7	21	20	37
Bright's disease and nephritis	2,185	1	13	7	32	23	37
Childbirth	363		5		4		4
Diseases of early infancy	1,369	2	15		10	4	33
Suicide	803	2	5	3	10	10	12
Other violence	2,952	6	61	9	41	21	52
All other causes	1,682	2	23	3	6	43	34
Proportion per 1,000 Total Deaths.							
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	12.4		20.5	30.0	9.0	5.7	11.2
Malarial fever	2.7						2.8
Smallpox	0.4						
Measles	3.6						8.4
Scarlet fever	0.9		2.6			5.7	
Whooping-cough	5.3						2.8
Diphtheria and croup	4.3				3.0		1.4
Influenza	4.0				3.0		5.6
Other epidemic diseases	5.1		2.5	10.0	3.0	11.4	14.0
Tuberculosis of lungs	117.6	64.5	89.5	80.0	96.4	123.1	108.1
Tuberculosis of other organs	22.1	32.3	17.9	10.0	18.1	15.2	23.9
Cancer	62.8		66.5	60.0	39.2	53.0	60.4
Other general diseases	44.2	32.3	56.3	70.0	51.2	32.2	41.4
Meningitis	8.4		7.7		9.0	1.9	9.8
Other diseases of nervous system	80.6	96.8	61.4	40.0	123.5	195.1	99.7
Diseases of circulatory system	173.7	258.0	194.4	240.0	156.6	200.8	192.4
Pneumonia and broncho-pneumonia	80.9	64.5	74.2	90.0	75.3	81.4	84.3
Other diseases of respiratory system	23.7		15.3	30.0	12.1	15.1	21.1
Diarrhoea and enteritis, under 2 years	28.8		23.0	30.0	18.1	15.1	5.6
Diarrhoea and enteritis, 2 years and over	9.8	32.3	2.5	20.0	9.0	5.7	8.4
Other diseases of digestive system	53.9		40.9	70.0	63.3	37.9	52.0
Bright's disease and nephritis	59.5	32.3	46.0	70.0	96.4	53.0	52.0
Childbirth	9.9		12.8		12.0		5.6
Diseases of early infancy	37.3	64.5	38.4		30.1	7.6	46.4
Suicide	21.9	64.5	12.8	30.0	30.1	18.9	16.9
Other violence	80.4	193.5	156.0	90.0	123.5	39.8	73.0
All other causes	45.8	64.5	58.8	30.0	18.1	81.4	47.8

per 1,000 Total Deaths, for Counties Arranged Geographically: 1912.

California

Interior counties

Trinity	Butte	Colusa	Glenn	Lassen	Modoc	Nevada	Placer	Plumas	Shasta	Sierra	Siskiyou	Sutter
61	406	97	68	37	32	222	214	48	182	40	167	66
1	3	1	2		3	1	3		1		3	2
	8	1				2	1		6	1	1	3
	5					1	1					
	5										1	
1	1										1	
	3	1			1			1	1	2	3	2
1	4		1				1		2			
2	40	12	7	2	1	25	21	4	17	1	8	2
	10				1	2	2	1	4	3	3	
1	18	5		2	2	14	13	3	2	4	9	7
1	26	3	10	2		7	20	1	7	1	14	4
	1	1			1	3	1	1	1		2	
2	22	5	3	3	2	19	14	1	12	2	6	6
18	66	15	14	9	6	50	34	7	32	11	38	7
	26	10	5	6	4	13	14	7	8	2	12	4
1	10	3				6	6	1	2	2	3	1
	13	5	2			5	2	1	2	1	4	3
2	5	1	2	1			2		3		3	1
3	17	5	3	2	3	12	7	1	10	2	10	4
6	21	4	1	1	4	7	16	4	8		3	3
	6		2		1	2	1		7		1	
1	22	5	5	2		7	4	1	7	1	6	
3	11	3	4			10	8	1	4	1	3	2
13	30	14	4	7		20	26	11	33	1	22	11
5	33	3	2		3	16	17	2	13	5	11	4
1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
16.4	7.4	10.3	29.4		93.8	4.5	14.0		5.5		18.0	30.3
	19.7	10.3				9.0	4.7		33.0	25.0	6.0	45.5
	12.3					4.5	4.7					
	12.3										6.0	
											6.0	
16.4	2.5											
	7.4	10.3			31.3			20.9	5.5	50.0	18.0	30.3
16.4	9.9		14.7		31.3		4.7		11.0			
32.8	98.5	123.7	102.9	54.1	31.3	112.6	96.1	83.4	93.4	25.0	47.9	30.3
	24.6				31.3	9.0	9.3	20.9	22.0	75.0	18.0	
16.4	44.3	51.6		54.1	62.5	63.1	60.8	62.5	11.0	100.0	53.9	106.1
16.4	64.0	30.9	147.1	54.1		31.5	93.5	20.9	38.5	25.0	83.8	60.6
	2.5	10.3	14.7		31.2	13.5	4.7	20.8	5.5		12.0	
32.8	54.2	51.6	44.1	81.1	62.5	85.6	65.4	20.8	65.9	50.0	35.9	90.9
295.1	162.6	154.6	205.9	243.2	187.5	225.2	158.9	145.8	175.8	275.0	227.5	106.1
	64.0	103.1	73.6	162.1	125.0	58.6	65.4	145.8	43.9	50.0	71.8	60.6
16.4	24.6	30.9				27.0	28.0	20.8	11.0	50.0	18.0	15.1
	32.0	51.6	29.4			22.5	9.3	20.8	11.0	25.0	23.9	45.5
32.8	12.3	10.3	29.4	27.0			9.3		16.5		18.0	15.1
49.2	41.9	51.6	44.1	54.1	98.7	54.1	32.7	20.8	54.9	50.0	59.9	60.6
98.3	51.7	41.2	14.7	27.0	125.0	31.5	74.8	83.3	43.9		18.0	45.4
	14.8		29.4		31.2	9.0	4.7		38.5		6.0	
16.4	54.2	51.6	73.6	54.0		31.5	18.7	20.8	38.5	25.0	35.9	
49.2	27.1	30.9	58.8			45.1	37.4	20.8	22.0	25.0	18.0	30.3
213.1	73.9	144.3	58.8	189.2		90.1	121.5	229.2	181.3	25.0	131.7	166.7
81.9	81.3	30.9	29.4		98.7	72.1	79.4	41.7	71.4	125.0	65.8	60.6

TABLE 30.—Death from Certain Principal Causes, with Proportion per

Cause of death	Northern California—Cont.		Central				
	Interior counties—Continued		San Francisco	Other bay counties			
	Tehama	Yuba		Alameda	Contra Costa	Marin	San Mateo
Deaths.							
ALL CAUSES	146	149	6,766	3,581	331	253	36
Typhoid fever	1		60	34	6	5	2
Malarial fever	2	3	12	1			2
Smallpox			1	1			
Measles			50	7	4		
Scarlet fever		1	1	1			
Whooping-cough		1	25	21	4		2
Diphtheria and croup	4		31	21	1		5
Influenza	2		8	5	1		
Other epidemic diseases	2		22	11	1		1
Tuberculosis of lungs	15	11	678	364	27	31	33
Tuberculosis of other organs	6	3	174	64	7	3	10
Cancer	5	5	500	268	17	27	17
Other general diseases	7	7	335	154	9	9	15
Meningitis	1	1	52	34	3	3	3
Other diseases of nervous system	13	4	448	317	20	16	25
Diseases of circulatory system	26	27	1,384	685	54	41	65
Pneumonia and broncho-pneumonia	23	12	543	334	35	20	24
Other diseases of respiratory system	1	6	174	91	6	4	3
Diarrhoea and enteritis, under 2 years	4	4	192	95	14	4	8
Diarrhoea and enteritis, 2 years and over	1	3	37	31	3	3	2
Other diseases of digestive system	5	7	456	204	13	16	11
Bright's disease and nephritis	7	8	371	196	15	15	14
Childbirth		2	50	42	2	1	3
Diseases of early infancy	4	3	236	150	18	11	13
Suicide	2	3	203	91	3	5	9
Other violence	13	17	434	225	59	25	29
All other causes	6	21	280	134	9	14	9
Proportion per 1,000 Total Deaths.							
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	6.9		8.9	9.5	18.1	19.8	6.6
Malarial fever	13.7	20.1	1.8	0.3			6.6
Smallpox			0.1	0.3			
Measles			7.4	1.9	12.1		
Scarlet fever		6.7	0.1	0.3			
Whooping-cough		6.7	3.7	5.9	12.1		6.6
Diphtheria and croup	27.4		4.6	5.9	3.0		16.4
Influenza	13.7		1.2	1.4	3.0		
Other epidemic diseases	13.7		3.2	3.1	3.0		3.3
Tuberculosis of lungs	102.7	73.8	100.2	101.6	81.6	122.5	106.2
Tuberculosis of other organs	41.1	20.1	25.7	17.9	21.2	11.9	32.8
Cancer	34.3	33.6	73.9	74.8	51.4	106.7	35.7
Other general diseases	47.9	47.0	49.5	43.0	27.2	35.6	49.2
Meningitis	6.9	6.7	7.7	9.5	9.1	11.9	9.8
Other diseases of nervous system	89.0	26.9	66.2	88.5	60.4	63.2	82.0
Diseases of circulatory system	178.1	181.2	204.6	191.3	163.1	162.0	213.1
Pneumonia and broncho-pneumonia	157.5	80.6	80.3	93.3	105.7	79.0	78.7
Other diseases of respiratory system	6.9	40.3	25.7	25.4	18.1	15.8	9.8
Diarrhoea and enteritis, under 2 years		26.9	28.4	26.5	42.3	15.8	26.2
Diarrhoea and enteritis, 2 years and over	6.9	20.1	5.5	8.7	9.1	11.9	6.5
Other diseases of digestive system	34.2	47.0	67.4	57.0	39.3	63.2	38.1
Bright's disease and nephritis	47.9	53.7	54.8	54.7	45.3	59.3	45.9
Childbirth		13.4	7.4	11.7	6.0	4.0	9.8
Diseases of early infancy	27.4	20.1	34.9	41.9	54.4	43.5	42.6
Suicide	13.7	20.1	30.0	25.4	9.1	19.8	29.5
Other violence	89.0	114.1	64.1	62.8	178.2	98.8	95.1
All other causes	41.1	140.9	42.7	37.4	27.2	55.3	29.5

1,000 Total Deaths, for Counties Arranged Geographically: 1912—Continued.

California

Coast counties					Interior counties							
Monterey	San Benito	San Luis Obispo	Santa Clara	Santa Cruz	Alpine	Amador	Calaveras	El Dorado	Fresno	Inyo	Kern	Kings
274	86	206	1,389	378	3	114	98	129	1,044	41	528	188
4	2	1	12	4		2		1	36		12	6
		1		1		2		1	5		1	5
		1	18	1				1	10		1	
1		2	6	1				1	2		2	
		1	2			1	1	1	12	2	5	1
	1	4	4	1		2	1	1	9		4	
1		2	6					1	3		2	1
22	8	24	180	26	1	24	12	13	96	4	57	22
10	2	3	30	9		2	1	1	16	1	13	2
16	5	11	86	27		5	2	4	62	1	21	9
18	3	4	59	16		5	5	5	32	1	29	11
1		2	6	4					8		6	3
25	7	11	160	28		5	6	8	61	2	27	8
44	14	35	294	74	1	10	23	32	143	4	57	20
26	10	11	119	32		4	10	6	92	4	51	14
5	2	2	47	12		3	3	4	21	1	7	2
4	2	4	40	12			1	2	33		25	9
2	3	4	11	1		2	1	1	11		4	2
11	4	25	67	20		6	5	10	54	2	36	11
29	6	8	75	23	1	17	6	11	53		29	11
5		1	14	3		2	1	1	10	1	7	7
4	4	8	36	18			2	1	56	2	19	14
9		7	19	10		1	1	2	20	2	14	3
25	11	21	78	28		15	11	13	112	10	82	16
12	2	12	69	27		6	6	9	32	2	16	9
1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
14.6	23.3	4.9	8.7	10.6		17.6		7.8	34.5		22.7	31.9
		4.9		2.6		17.6		7.8	4.8		1.9	26.6
		4.9	13.0	2.6				7.8	9.6		1.9	
3.7		9.8	0.7	2.6				7.8	1.9		3.8	
		4.9	4.3					7.7	11.5	48.8	9.5	5.3
		4.9	1.4			8.8		7.7	8.6		7.6	
	11.6	19.5	2.9	2.6		17.5	10.2	7.7	4.8	48.8	1.9	10.6
3.7		9.8	4.3					7.7	2.9		3.8	5.3
30.3	93.0	117.1	93.6	68.8	333.4	210.5	122.5	100.8	91.9	97.5	107.9	117.0
36.5	23.3	14.6	21.6	23.8		17.5	10.2	7.7	15.3	24.4	24.6	10.6
58.4	58.1	53.7	61.9	71.4		43.9	20.4	31.0	59.4	24.4	39.8	47.9
66.7	34.9	19.5	42.5	42.3		43.9	51.0	38.8	30.7	24.4	54.9	58.5
3.7		9.8	4.3	10.6					7.7		11.4	16.0
91.2	81.4	53.7	115.2	74.1		43.9	61.2	62.0	58.4	48.8	51.1	42.6
100.6	162.8	170.7	211.6	196.8	333.3	87.7	234.7	248.1	137.0	97.5	107.9	106.4
94.9	116.3	53.7	85.7	84.7		35.1	102.1	46.5	88.1	97.5	96.6	74.5
18.3	23.3	9.7	33.8	31.8		26.3	30.6	31.0	20.1	24.4	13.3	10.6
14.6	23.2	19.5	23.8	31.8			10.2	15.5	79.5		47.3	47.9
7.3	34.9	19.5	7.9	2.6		17.5	10.2	7.7	10.5		7.6	10.6
40.1	46.5	121.9	48.2	52.9		52.6	51.0	77.5	51.7	48.8	68.2	58.5
105.8	60.8	39.0	54.0	60.9	333.3	149.1	61.2	85.3	50.8		54.9	58.5
18.2		4.9	10.1	7.9		17.5	10.2		9.6	24.4	13.3	37.2
14.6	46.5	39.0	25.9	47.6			20.4	7.7	53.6	48.8	36.0	74.5
32.8		34.1	13.7	26.5		8.8	10.2	15.5	19.2	48.8	26.5	16.0
91.2	127.9	102.4	56.2	74.1		181.6	112.8	100.8	107.8	243.9	156.3	85.1
43.8	22.2	58.5	49.7	71.4		52.6	61.2	69.8	30.6	48.8	30.8	47.9

TABLE 30.—Death from Certain Principal Causes, with Proportion per

Cause of death	Central California					
	Interior counties					
	Madera	Mariposa	Merced	Monro	Sacramento	San Joaquin
Deaths.						
ALL CAUSES	68	23	176	11	1,212	1,088
Typhoid fever.....			7		28	14
Malarial fever.....			3		11	4
Smallpox.....						
Measles.....					11	3
Scarlet fever.....			1			
Whooping-cough.....					2	1
Diphtheria and croup.....					5	3
Influenza.....			2		6	5
Other epidemic diseases.....			4		16	3
Tuberculosis of lungs.....	7	2	12		126	134
Tuberculosis of other organs.....			2	1	25	17
Cancer.....	5	1	4	1	72	57
Other general diseases.....	6		7	1	75	45
Meningitis.....	1		4		7	9
Other diseases of nervous system.....	7	1	7		52	116
Diseases of circulatory system.....	12	3	28		161	173
Pneumonia and broncho-pneumonia.....	7	1	11	1	112	114
Other diseases of respiratory system.....	1	1	6		31	20
Diarrhœa and enteritis, under 2 years.....	2	1	12		38	17
Diarrhœa and enteritis, 2 years and over.....		1	5		14	21
Other diseases of digestive system.....	1	6	8		75	36
Bright's disease and nephritis.....	6	2	5	1	59	72
Childbirth.....	1		3		19	10
Diseases of early infancy.....	1		7		34	23
Suicide.....	2		3	1	26	14
Other violence.....	8	4	19	4	135	118
All other causes.....	1		14	1	72	54
Proportion per 1,000 Total Deaths.						
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever.....			39.8		23.1	12.9
Malarial fever.....			17.0		9.1	3.7
Smallpox.....						
Measles.....					9.1	2.7
Scarlet fever.....			5.7			
Whooping-cough.....					1.6	0.9
Diphtheria and croup.....			11.4		4.1	2.7
Influenza.....			11.4		4.9	4.6
Other epidemic diseases.....			22.7		13.2	2.7
Tuberculosis of lungs.....	102.9	86.9	68.2		104.0	123.2
Tuberculosis of other organs.....			11.4	90.9	20.6	15.6
Cancer.....	73.5	43.5	22.7	90.9	59.4	52.4
Other general diseases.....	88.3		39.8	90.9	61.9	41.3
Meningitis.....	14.7		22.7		5.8	8.3
Other diseases of nervous system.....	102.9	43.5	39.8		42.9	108.5
Diseases of circulatory system.....	176.5	130.4	159.1		132.8	159.0
Pneumonia and broncho-pneumonia.....	102.9	43.5	62.5	90.9	92.4	104.5
Other diseases of respiratory system.....	14.7	43.5	34.1		25.6	18.4
Diarrhœa and enteritis, under 2 years.....	29.4	43.5	68.2		31.3	15.6
Diarrhœa and enteritis, 2 years and over.....		43.5	28.4		11.5	19.3
Other diseases of digestive system.....	14.7	260.9	45.5		61.9	33.1
Bright's disease and nephritis.....	88.3	86.9	28.4	90.9	48.7	66.2
Childbirth.....	14.7		17.0		15.7	9.2
Diseases of early infancy.....	14.7		39.8		28.1	23.9
Suicide.....	29.4		17.0	90.9	21.5	12.9
Other violence.....	117.7	173.9	107.9	383.7	111.4	108.5
All other causes.....	14.7		79.5	90.9	59.4	49.6

1,000 Total Deaths, for Counties Arranged Geographically: 1912—Concluded.

-Continued		Southern California												
-Continued		Other counties										Los Angeles		
Solano	Stanislaus	Tulare	Tulare	Yuba	Yolo	Imperial	Orange	Riverside	San Bernardino	San Diego	Santa Barbara	Ventura	Los Angeles	Los Angeles
315	331	393	130	198	8,890	156	515	510	1,042	1,294	360	260		
4	9	11	10	3	76	10	10	8	11	15	3	2		
1	1	4		3	7	1	2		1	1		1		
					13									
2	2	1			4		2	1		2				
	1				13		1		2	1				
3	2	7			60	2	7	3	4	10				
	1	3			40	2	4	3	7	5				
	2	3	2	5	44	1	1	1	2	9	2	2		
5	5	3	1	1	49		1	2	7	8				
29	23	40	18	9	1,344	25	48	100	178	193	46	20		
3	7	11		2	233	2	7	14	29	20	10	6		
16	14	23	5	19	597	3	36	23	47	68	16	15		
8	9	13	6	4	374	3	27	17	34	51	18	6		
4	3	9	1	3	67	1	5	7	11	14	1	8		
25	27	31	11	15	736	12	35	43	142	101	41	21		
65	49	55	17	33	1,428	15	63	60	155	223	53	40		
24	24	37	22	10	679	13	24	33	68	94	22	23		
5	13	8	5	6	209	2	18	14	18	28	11	11		
13	18	11	1	4	213	9	35	26	28	37	15	9		
2	4	5	2	5	83	1	7	6	15	21	5	4		
12	34	18	6	16	427	2	27	24	36	65	37	7		
22	14	15	3	9	631	10	33	33	63	86	11	14		
1	5	7	1	2	94	1	7	4	7	13	3	1		
16	14	24	1	2	336	6	28	26	38	49	18	19		
5	10	6		5	173	6	3	2	19	21	5	6		
35	22	29	11	28	569	22	60	39	84	96	31	32		
15	18	19	7	9	391	7	24	21	35	60	12	13		
1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0		
12.7	27.2	28.0	76.9	15.6	8.5	64.1	19.4	15.7	10.6	11.6	8.3	7.7		
3.2	3.0	10.2		15.5	0.8	6.4	3.9		1.0	0.8		3.8		
					1.5				1.0					
6.3	6.0	2.5			0.4		3.9	2.0		1.5				
	3.0				1.5		1.9		1.9	0.8				
9.5	6.0	17.8			6.7	12.8	13.6	5.9	3.8	7.7				
	3.0	7.6			4.5	12.8	7.8	5.9	6.7	3.9				
	6.0	7.6	15.4	25.9	4.9	6.4	1.9	2.0	1.9	7.0	5.5	7.7		
15.9	15.1	7.6	7.7	5.2	5.5		1.9	3.9	6.7	6.2				
92.1	69.5	101.8	138.5	46.6	151.2	160.3	93.2	193.1	170.8	151.5	127.8	76.9		
9.5	21.2	28.0		10.4	26.2	12.8	13.6	27.4	27.8	15.5	27.8	23.1		
50.8	42.3	58.5	38.5	98.5	67.2	19.2	69.9	45.1	45.1	52.5	44.4	57.7		
25.4	27.2	33.1	46.1	20.7	42.1	19.2	52.4	33.3	32.6	39.4	50.0	23.1		
12.7	9.1	22.9	7.7	15.5	7.5	6.4	9.7	13.7	10.6	10.8	2.8	30.8		
79.4	81.6	78.9	84.6	77.7	82.8	76.9	68.0	84.3	133.3	78.1	113.9	89.8		
206.3	148.0	139.9	130.8	171.0	160.6	96.2	122.3	117.6	148.7	172.3	147.2	153.8		
76.2	72.5	94.1	169.2	51.8	76.4	83.4	46.6	64.7	65.3	72.6	61.1	88.5		
15.9	39.3	20.4	38.5	31.1	23.5	12.8	35.0	27.4	17.3	21.6	30.6	42.3		
41.3	54.4	28.0	7.7	20.7	24.0	57.7	68.0	51.0	26.9	28.6	41.7	34.6		
6.3	12.1	12.7	15.4	25.9	9.3	6.4	13.6	11.8	14.4	16.2	13.9	15.4		
38.1	102.7	45.8	46.1	82.9	48.0	12.8	52.4	47.1	34.5	50.2	102.8	26.9		
69.8	42.3	38.2	23.1	46.6	71.0	64.1	64.1	64.7	80.5	66.5	30.6	53.8		
3.2	15.1	17.8	7.7	10.4	10.6	6.4	13.6	7.8	6.7	10.0	8.3	3.8		
50.8	42.3	61.1	7.7	10.4	37.8	38.5	54.4	51.0	36.5	37.9	50.0	73.1		
15.9	30.2	15.3		25.9	19.5	38.5	5.8	3.9	18.2	16.2	13.9	23.1		
111.1	66.5	73.8	84.6	145.1	64.0	141.0	116.5	76.5	80.6	74.2	86.1	123.1		
47.6	54.4	48.4	53.8	46.6	44.0	44.9	46.6	41.2	33.6	46.4	33.3	50.0		

TABLE 31.—Deaths from Certain Principal Causes, with Proportion per 1,000

Cause of death	33 Freeholders' charter cities	Northern California				
		Yuba	Napa	Petaluma	Santa Rosa	Grass Valley
Deaths.						
ALL CAUSES	23,519	256	117	85	146	71
Typhoid fever	262	5	3		3	1
Malarial fever	24			1	1	
Smallpox	5					
Measles	78					
Scarlet fever	39					
Whooping-cough	71		1		1	
Diphtheria and croup	128			1	2	1
Influenza	103	1			2	
Other epidemic diseases	106	2		1	2	
Tuberculosis of lungs	2,663	19	13	4	10	7
Tuberculosis of other organs	575	6	4	2	3	1
Cancer	1,772	24	6	8	7	3
Other general diseases	1,114	13	5	4	6	4
Meningitis	269	4	1	2	1	1
Other diseases of nervous system	1,056	25	11	5	14	11
Diseases of circulatory system	4,081	46	25	10	30	14
Pneumonia and broncho-pneumonia	1,832	12	10	12	8	2
Other diseases of respiratory system	488	6	3	4	1	2
Diarrhœa and enteritis, under 2 years	670	4	1		2	2
Diarrhœa and enteritis, 2 years and over	191	4	2	1	1	1
Other diseases of digestive system	1,307	11	11	8	12	3
Bright's disease and nephritis	1,510	10	7	4	8	2
Childbirth	253	3	2		1	3
Diseases of early infancy	856	6	2	3	8	5
Suicide	548	9	1	2	3	1
Other violence	1,598	31	5	5	15	4
All other causes	1,020	15	4	8	5	3
Proportion per 1,000 Total Deaths.						
ALL CAUSES	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Typhoid fever	11.1	19.5	25.6		20.5	14.1
Malarial fever	1.0			11.8	6.9	
Smallpox	0.2					
Measles	3.3					
Scarlet fever	1.7					
Whooping-cough	3.0		8.6		6.9	
Diphtheria and croup	5.4			11.8	13.7	14.1
Influenza	4.4	3.9			13.7	
Other epidemic diseases	4.5	7.8		11.8	13.7	
Tuberculosis of lungs	113.2	74.2	111.1	47.1	68.5	98.6
Tuberculosis of other organs	24.5	23.4	34.2	23.5	20.5	14.1
Cancer	75.3	93.8	51.3	94.1	47.9	42.3
Other general diseases	47.4	50.8	42.7	47.1	41.1	56.3
Meningitis	11.4	15.6	8.6	23.5	6.9	14.1
Other diseases of nervous system	83.2	97.7	94.0	58.8	95.9	154.9
Diseases of circulatory system	173.5	179.7	213.7	117.6	205.5	197.2
Pneumonia and broncho-pneumonia	77.9	46.9	85.5	141.2	54.8	28.2
Other diseases of respiratory system	20.8	23.4	25.6	47.1	6.9	28.2
Diarrhœa and enteritis, under 2 years	28.5	15.6	8.6		13.7	28.2
Diarrhœa and enteritis, 2 years and over	8.1	15.6	17.1	11.8	6.9	14.1
Other diseases of digestive system	55.6	43.0	94.0	94.1	82.2	42.2
Bright's disease and nephritis	64.2	39.1	59.8	47.0	54.8	28.2
Childbirth	10.8	11.7	17.1		6.8	42.2
Diseases of early infancy	36.4	23.4	17.1	35.3	54.8	70.4
Suicide	23.3	35.2	8.5	23.5	20.5	14.1
Other violence	67.9	121.1	42.7	58.8	102.7	56.3
All other causes	43.4	58.6	34.2	94.1	34.2	42.2

Total Deaths, for Freeholders' Charter Cities Arranged Geographically: 1913.

Central California										
San Francisco	Alameda	Berkeley	Oakland	Richmond	San Rafael	Monterey	Saltinas	San Luis Obispo	Palo Alto	San Jose
7,002	290	456	2,197	159	92	67	74	101	31	452
71	1	4	22	5			2	1		6
6			2	1						
8		4						1		
16	1		2							
17			3			1				3
29		1	24	1	1					
11	2	1	9			1	1			3
25	3	1	4			1		1		1
685	25	29	177	9	13	6	4	13	1	42
196	7	8	51	3		3	3	3	1	17
573	28	42	198	3	10	6	4	9	3	37
355	18	23	88	5	6	3	7	6	1	14
56	2	1	16	2		1				3
484	31	45	198	10	7	10	7	8	5	38
1,443	50	112	405	24	20	8	15	24	6	96
509	22	34	218	18	3	2	5	6	2	38
153	4	5	39	1	1		4		3	12
143	10	12	63	8	5	3	3	3	1	13
46	1	1	20			2	1			3
436	19	20	118	7	6	3	1	7	1	17
426	22	28	149	10	5	7	7	8	5	33
74	2	3	26	2	1		1	1		9
195	6	20	87	14	4		4	3	1	15
220	9	12	57	7	1	1		2		11
454	21	26	129	29	6	7	4	7	1	22
282	6	24	94	1	3	2	1	3		19
1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
10.1	3.5	8.8	10.0	31.5			27.0	9.9		13.3
0.9		8.8	0.9	6.3						
1.1								9.9		
2.3	3.4		0.9							
2.4			1.4			14.9				6.6
4.1		2.2	10.9	6.3	10.9					
1.6	6.9	2.2	3.6			14.9	13.5			6.6
3.6	10.3	2.2	1.8			14.9		9.9		2.2
97.8	86.2	68.6	80.9	50.3	141.3	89.6	54.1	128.7	32.3	92.9
27.9	24.1	17.5	23.2	18.9		44.8	40.5	29.7	32.3	37.6
81.8	96.6	92.1	90.1	18.9	108.7	89.6	54.1	89.1	96.8	81.9
50.7	62.1	50.4	40.1	31.4	65.2	44.8	94.6	59.4	32.3	31.0
8.0	6.9	2.2	7.3	12.6		14.9				6.6
69.1	106.9	98.7	90.1	62.9	76.1	149.2	94.6	79.2	161.3	84.1
206.1	172.4	245.6	184.3	150.9	217.4	119.4	202.7	237.7	193.5	212.4
85.6	75.9	74.6	99.2	113.2	32.6	29.0	67.6	59.4	64.5	84.1
21.9	13.8	11.0	17.8	6.3	10.9		54.1		96.8	26.6
20.4	34.5	26.3	28.7	50.3	54.3	44.8	40.5	29.7	32.3	28.8
6.6	3.4	2.2	9.1			29.8	13.5			6.6
62.3	65.5	43.8	53.7	44.0	65.2	44.8	13.5	69.3	32.2	37.6
60.3	75.9	61.4	67.8	62.9	54.3	104.5	94.6	29.7	161.3	73.0
10.6	6.9	6.6	11.8	12.6	10.9		13.5	9.9		19.9
27.8	20.7	43.9	39.6	36.0	43.5		54.1	29.7	32.2	33.2
31.4	31.0	26.3	26.0	44.0	10.9	14.9		19.8		24.3
64.8	72.4	57.0	58.3	182.4	65.2	104.5	54.0	69.3	32.2	48.7
40.3	20.7	52.6	42.8	6.3	32.6	29.8	13.5	29.7		42.0

TABLE 31.—Deaths from Certain Principal Causes, with Proportion per 1,000 Total

Cause of death	Central California—				
	Santa Cruz	Watsonville	Fresno	Sacramento	Stockton
Deaths.					
ALL CAUSES -----	174	90	420	1,108	460
Typhoid fever -----		1	7	34	5
Malarial fever -----				9	
Smallpox -----					1
Measles -----	2		3	1	
Scarlet fever -----			3	5	
Whooping-cough -----		1		3	3
Diphtheria and croup -----			6	6	2
Influenza -----	2		2	4	
Other epidemic diseases -----			3	6	5
Tuberculosis of lungs -----	22	10	32	135	62
Tuberculosis of other organs -----	3	3	11	29	13
Cancer -----	18	2	23	74	18
Other general diseases -----	3	4	17	70	12
Meningitis -----	2	1	5	16	8
Other diseases of nervous system -----	21	8	31	74	80
Diseases of circulatory system -----	44	13	59	142	52
Pneumonia and broncho-pneumonia -----	11	6	30	93	32
Other diseases of respiratory system -----	3	5	5	18	11
Diarrhoea and enteritis, under 2 years -----	2	5	41	49	5
Diarrhoea and enteritis, 2 years and over -----	3	3	2	5	6
Other diseases of digestive system -----	5	6	39	68	25
Bright's disease and nephritis -----	12	8	14	64	35
Childbirth -----		3	8	16	1
Diseases of early infancy -----	5	3	30	43	13
Suicide -----	2	1	5	16	9
Other violence -----	7	5	25	32	30
All other causes -----	7	2	14	41	32
Proportion per 1,000 Total Deaths.					
ALL CAUSES -----	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Typhoid fever -----		11.1	16.7	30.7	10.9
Malarial fever -----				8.1	
Smallpox -----					2.2
Measles -----	11.5		7.1	0.9	
Scarlet fever -----			7.1	4.5	
Whooping-cough -----		11.1		2.7	6.5
Diphtheria and croup -----			14.3	5.4	4.3
Influenza -----	11.5		4.8	3.6	
Other epidemic diseases -----			7.1	5.4	10.9
Tuberculosis of lungs -----	126.4	111.1	76.2	121.8	134.8
Tuberculosis of other organs -----	17.3	33.3	26.2	26.2	28.3
Cancer -----	103.4	22.2	66.7	66.8	39.1
Other general diseases -----	17.3	44.5	40.5	63.2	26.1
Meningitis -----	11.5	11.1	11.9	14.5	17.4
Other diseases of nervous system -----	120.7	88.9	73.8	66.8	173.9
Diseases of circulatory system -----	252.9	144.4	140.5	123.2	113.0
Pneumonia and broncho-pneumonia -----	63.2	66.7	71.4	83.9	69.6
Other diseases of respiratory system -----	17.3	55.6	11.9	16.3	23.9
Diarrhoea and enteritis, under 2 years -----	11.5	55.6	97.6	44.2	10.9
Diarrhoea and enteritis, 2 years and over -----	17.2	33.3	4.8	4.5	13.0
Other diseases of digestive system -----	28.7	66.7	92.9	61.4	54.3
Bright's disease and nephritis -----	69.0	88.9	33.3	57.8	76.1
Childbirth -----		33.3	19.1	14.4	2.2
Diseases of early infancy -----	28.7	33.3	71.4	43.3	28.2
Suicide -----	11.5	11.1	11.9	14.4	19.6
Other violence -----	40.2	55.6	59.5	74.0	65.2
All other causes -----	40.2	22.2	33.3	37.0	69.6

Deaths, for Freeholders' Charter Cities Arranged Geographically: 1913—Concluded.

Continued

Southern California

Vallejo	Modesto	Los Angeles	Long Beach	Pasadena	Pomona	Santa Monica	Riverside	San Bernardino	San Diego	Santa Barbara
170	165	6,198	482	470	155	176	231	323	1,073	228
2	4	52	4	2	2	1	4	5	14	1
		1	1	1	1					
1	1	56		1					3	1
		12								
	1	31	1		1		1	1	1	1
		43		1			3	1	4	
1	2	84	4	4	2	1	4	8	9	1
2	1	29	4	2	2	1	1	4	5	
13	11	960	24	58	20	11	33	79	141	26
1	5	131	5	7	1	3	9	12	33	2
14	10	415	42	50	10	10	16	17	69	18
6	8	294	26	19	6	7	10	13	53	8
2	2	120	2	4	1	2	4	2	6	2
13	15	492	57	56	16	16	20	19	93	36
30	27	922	67	85	28	36	31	38	148	31
13	15	449	19	36	10	16	11	16	71	13
5	4	116	11	11	6	2	5	5	33	10
8	1	188	11	2	2	3	13	22	38	7
2	2	44	1	8	2	2	4	5	14	5
7	5	318	26	22	6	13	12	12	49	14
5	9	431	48	35	15	1	13	6	77	11
1	3	66	6	4	3	1		1	10	2
6	9	234	23	11	8	8	7	13	53	12
6	2	117	5	9	3	5	3	4	21	4
29	16	389	63	20	5	25	14	29	79	15
3	12	284	30	22	5	12	13	16	49	8
1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
11.8	24.2	8.4	8.3	4.3	12.9	5.7	17.3	15.5	13.0	4.4
		0.2	2.1	2.1	6.5					
5.9	6.1	9.0		2.1					2.8	4.4
		1.9								
	6.1	5.0	2.1		6.5		4.3	3.1	0.9	4.4
		6.9	4.2	2.1			13.0	3.1	3.7	
5.9	12.1	5.5	8.3	8.5	12.9	5.7	17.3	9.3	8.4	4.4
11.8	6.1	4.7	8.3	4.3	12.9	5.7	4.3	12.4	4.7	
73.5	60.7	150.0	49.8	123.4	129.0	62.5	142.9	244.6	131.4	114.0
5.9	30.3	21.1	10.4	14.9	6.4	17.0	39.0	37.2	30.8	8.8
82.3	60.6	67.0	87.1	106.4	64.5	56.8	69.3	52.6	64.3	78.9
35.3	48.5	47.4	53.9	40.4	38.7	39.8	43.3	40.2	49.4	35.1
11.7	12.1	19.4	4.2	8.5	6.4	11.4	17.3	6.2	5.6	8.8
76.5	90.9	79.4	118.2	119.1	103.2	90.9	86.6	58.8	86.7	157.9
176.5	163.6	148.8	139.0	180.8	180.6	204.5	134.2	117.6	137.9	136.0
76.5	90.9	72.4	39.4	76.6	64.5	90.9	47.6	49.5	66.2	57.0
29.4	24.2	18.7	22.8	23.4	38.7	11.4	21.6	15.5	30.7	43.9
47.0	6.1	30.3	22.8	4.3	12.9	17.0	56.3	68.1	35.4	30.7
11.7	12.1	7.1	2.1	17.0	12.9	11.4	17.3	15.5	18.0	21.9
41.2	30.3	51.3	53.9	46.8	38.7	73.9	51.9	37.2	45.7	61.4
29.4	54.6	69.5	90.6	74.5	93.8	5.7	56.3	18.6	71.8	48.2
5.9	18.2	10.7	12.5	8.5	19.4	5.7		3.1	9.3	8.8
35.3	54.5	37.8	47.7	23.4	51.6	45.4	30.3	40.2	49.4	52.6
35.3	12.1	18.9	10.4	19.2	19.4	28.4	13.0	12.4	19.6	17.5
170.6	97.0	62.8	130.7	42.6	32.3	142.0	60.6	80.8	73.6	65.8
17.6	72.7	45.8	62.2	46.8	32.3	68.2	56.3	49.5	45.7	35.1

TABLE 32.—Deaths from Certain Principal Causes, with Proportion per 1,000

Cause of death	31 Freeholders' charter cities	Northern			
		Durham	Napa	Petaluma	Santa Rosa
Deaths.					
ALL CAUSES	22,322	217	92	90	140
Typhoid fever	242	2	2		1
Malarial fever	30				
Smallpox	14				
Measles	88				1
Scarlet fever	18	1	1		
Whooping-cough	117			1	
Diphtheria and croup	96				1
Influenza	61				
Other epidemic diseases	93	1		1	1
Tuberculosis of lungs	2,554	26	12	10	10
Tuberculosis of other organs	544	6	1		2
Cancer	1,590	15	4	11	11
Other general diseases	1,008	14	4	1	8
Meningitis	192	1	1	1	1
Other diseases of nervous system	1,715	12	5	6	8
Diseases of circulatory system	4,000	43	16	19	39
Pneumonia and broncho-pneumonia	1,819	17	8	3	12
Other diseases of respiratory system	539	4	4	1	3
Diarrhoea and enteritis, under 2 years	588	4	5		3
Diarrhoea and enteritis, 2 years and over	199	1	1	2	2
Other diseases of digestive system	1,332	7	8	5	5
Bright's disease and nephritis	1,329	12	4	5	7
Childbirth	228	3			2
Diseases of early infancy	858	8	1	7	9
Suicide	543	4	6	2	3
Other violence	1,537	22	6	6	8
All other causes	991	14	3	9	3
Proportion per 1,000 Total Deaths.					
ALL CAUSES	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Typhoid fever	10.8	9.2	21.7		7.2
Malarial fever	1.4				
Smallpox	0.6				
Measles	3.9				7.1
Scarlet fever	0.6	4.6	10.9		
Whooping-cough	5.2			11.1	
Diphtheria and croup	4.4				7.1
Influenza	2.7				
Other epidemic diseases	4.2	4.6		11.1	7.1
Tuberculosis of lungs	114.4	119.8	130.4	111.1	71.4
Tuberculosis of other organs	24.4	27.7	10.9		14.3
Cancer	71.2	69.1	49.5	122.2	78.6
Other general diseases	45.2	64.5	49.5	11.1	57.2
Meningitis	8.6	4.6	10.9	11.1	7.1
Other diseases of nervous system	76.8	55.3	54.3	66.7	57.2
Diseases of circulatory system	179.2	198.2	173.9	211.1	278.6
Pneumonia and broncho-pneumonia	81.5	78.4	87.0	33.3	85.7
Other diseases of respiratory system	24.2	18.4	43.5	11.1	21.4
Diarrhoea and enteritis, under 2 years	26.4	18.4	54.3		21.4
Diarrhoea and enteritis, 2 years and over	8.9	4.6	10.9	22.2	14.3
Other diseases of digestive system	59.7	32.3	86.9	55.6	35.7
Bright's disease and nephritis	59.5	55.3	43.5	55.6	60.0
Childbirth	10.2	13.8			14.3
Diseases of early infancy	38.4	36.9	10.9	77.8	64.3
Suicide	24.3	18.4	65.2	22.2	21.4
Other violence	68.9	101.4	65.2	66.7	57.2
All other causes	44.4	64.5	32.6	100.0	21.4

Total Deaths, for Freeholders' Charter Cities Arranged Geographically: 1912.

California	Central California									
Grass Valley	San Francisco	Alameda	Berkeley	Oakland	Richmond	Monterey	Salinas	San Luis Obispo	Palo Alto	San Jose
62	6,766	325	439	2,139	135	66	57	108	43	472
	60	8	6	22	1		2			3
	12			1						
	1		1							
	50		1	5	3					8
	1									
	25		1	19	1			1	1	1
	31		4	14	1					
	8	3		2				1		
	22			9		1				1
10	678	22	33	191	8	4	2	15	2	46
1	174	3	9	41	3	5	2	2		15
5	500	28	34	164	8	7		6	5	34
1	335	15	25	73	1	4		2	4	14
1	52	2	2	27			1	1		3
4	448	25	33	185	4	7	9	5	3	44
15	1,384	75	89	408	16	13	1	21	10	106
5	543	26	39	196	20	7	6	5	2	44
2	174	5	4	60	2		1	2		21
1	192	8	11	54	5			2	1	13
	37	3	7	15			1	3	1	3
3	456	24	26	135	8	2	2	16	1	19
2	371	24	22	114	6	4	8	1	7	30
1	50	6	6	24	2	2	2	1		3
2	236	6	17	110	10	1		4	2	15
3	203	10	10	57	3	2	4	3		7
2	434	25	37	129	29	3	9	9	2	25
4	239	12	17	84	4	4	2	8	2	17
1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
	8.9	9.2	13.7	10.3	7.4		35.1			6.4
	1.8			0.5						
	0.1		2.3							
	7.4		2.3	2.3	22.2					16.9
	0.1									
	3.7		2.3	8.9	7.4			9.3	23.3	2.1
	4.6		9.1	6.6	7.4					
	1.2	9.2		0.9				9.3		
	3.2			4.2		15.1				2.1
161.3	100.2	67.7	75.2	89.3	59.3	60.6	35.1	188.9	46.5	97.5
16.1	25.7	9.2	20.5	19.2	22.2	75.8	35.1	18.5		31.8
30.7	73.9	36.2	77.4	76.7	59.3	106.1		55.5	116.3	72.0
16.1	49.5	46.2	56.9	34.1	7.4	60.6		87.7	93.0	29.7
16.1	7.7	6.2	4.6	12.6				17.5	9.3	6.4
64.5	66.2	76.9	86.6	86.5	29.6	106.1	157.9	46.3	69.8	93.2
241.9	204.6	230.8	202.7	190.6	118.5	197.0	17.5	194.4	232.6	224.6
30.6	30.3	60.0	39.8	91.6	148.1	106.1	105.3	46.3	46.5	93.2
32.3	25.7	15.4	9.1	28.1	14.8		17.5	18.5		44.5
16.1	23.4	24.6	25.1	25.3	37.1			18.5	23.3	27.5
	5.5	9.2	15.9	7.0			17.5	27.8	23.2	6.4
48.4	67.4	73.8	59.2	63.1	59.3	30.3	35.1	148.1	23.2	40.2
32.3	54.8	73.8	50.1	53.3	44.5	60.6	140.4	9.3	162.8	63.6
16.1	7.4	18.5	13.7	11.2	14.8	30.3	35.1	9.3		6.3
32.3	34.9	18.5	38.7	51.4	74.1	15.1		37.0	46.5	31.8
48.4	30.0	30.8	22.8	26.7	22.2	30.3	70.2	27.8		14.8
32.3	64.1	76.9	84.3	60.3	214.8	45.4	157.9	33.3	46.5	53.0
64.5	42.7	36.9	38.7	39.3	29.6	60.6	35.1	74.1	46.5	36.0

TABLE 32.—Deaths from Certain Principal Causes, with Proportion per 1,000 Total

Cause of death	Central				
	San Joaquin	Watsonville	Fresno	Sacramento	Stockton
Deaths.					
ALL CAUSES	182	98	383	1,062	586
Typhoid fever	1	2	13	27	4
Malarial fever	1		1	8	1
Smallpox					
Measles		1	3	9	2
Scarlet fever		1			
Whooping-cough			5	2	1
Diphtheria and croup			3	5	3
Influenza	1		1	6	2
Other epidemic diseases			1	12	
Tuberculosis of lungs	7	8	27	106	83
Tuberculosis of other organs	3	4	7	24	12
Cancer	15	4	35	68	28
Other general diseases	11	3	10	64	18
Meningitis	1		4	6	6
Other diseases of nervous system	18	4	18	44	85
Diseases of circulatory system	47	12	45	145	86
Pneumonia and broncho-pneumonia	10	13	36	95	58
Other diseases of respiratory system	4	1	7	29	10
Diarrhœa and enteritis, under 2 years	3	6	34	31	8
Diarrhœa and enteritis, 2 years and over	1		3	12	16
Other diseases of digestive system	12	2	31	66	20
Bright's disease and nephritis	12	8	21	50	27
Childbirth	1	1	3	17	4
Diseases of early infancy	6	5	24	31	12
Suicide	8	1	6	17	10
Other violence	11	10	32	93	55
All other causes	9	7	13	65	35
Proportion per 1,000 Total Deaths.					
ALL CAUSES	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Typhoid fever	5.5	21.5	34.0	26.2	6.8
Malarial fever	5.5		2.6	7.8	1.7
Smallpox					
Measles		10.8	7.8	8.7	3.4
Scarlet fever		10.8			
Whooping-cough			13.1	1.9	1.7
Diphtheria and croup			7.8	4.8	5.1
Influenza	5.5		2.6	5.8	3.4
Other epidemic diseases			2.6	11.6	
Tuberculosis of lungs	38.5	86.0	70.5	102.8	141.6
Tuberculosis of other organs	16.5	43.0	18.3	23.3	20.5
Cancer	82.4	43.0	91.4	65.9	47.8
Other general diseases	60.4	32.3	26.1	62.0	30.7
Meningitis	5.5		10.4	5.8	10.2
Other diseases of nervous system	98.9	43.0	47.0	42.6	145.0
Diseases of circulatory system	258.2	129.0	117.5	140.5	146.8
Pneumonia and broncho-pneumonia	54.9	139.8	94.0	92.0	99.0
Other diseases of respiratory system	22.0	10.8	18.3	28.1	17.1
Diarrhœa and enteritis, under 2 years	16.5	64.5	88.8	30.0	13.7
Diarrhœa and enteritis, 2 years old and over	5.5		7.8	11.6	27.3
Other diseases of digestive system	65.9	21.5	80.9	64.0	34.1
Bright's disease and nephritis	65.9	86.0	54.8	48.5	46.1
Childbirth	5.5	10.7	7.8	16.5	6.8
Diseases of early infancy	33.0	53.8	62.7	30.0	20.5
Suicide	44.0	10.7	15.7	16.5	17.1
Other violence	60.4	107.5	83.6	90.1	93.9
All other causes	49.5	75.3	33.9	63.0	59.7

Deaths, for Freeholders' Charter Cities Arranged Geographically: 1912—Concluded.

California		Southern California									
Vallejo	Modesto	Los Angeles	Long Beach	Pasadena	Pomona	Santa Monica	Riverside	San Bernardino	San Diego	Santa Barbara	
136	127	5,665	324	534	162	168	270	298	987	234	
	1	.59	4	2	2	1	5	3	13	3	
		5							1		
		10		2							
		4							1		
		8							1		
	1	41	2	7				1	7		
		25		4	1		1	2	3		
		20	1	3	2	1		1	8	1	
1	3	25	4	1		2		1	7		
13	8	313	25	91	16	10	45	58	142	33	
1	5	166	4	14	3	1	8	6	16	6	
7	9	414	26	31	13	9	15	13	59	12	
2	3	270	9	22	4	10	13	14	39	10	
2	3	45	2	5	1		5	7	11	1	
11	10	453	31	58	12	16	22	23	82	25	
29	21	848	74	90	27	36	37	44	164	40	
9	11	441	24	39	17	12	17	19	72	13	
3	6	130	4	16	3	5	9	4	19	6	
5	6	115	8	4	5	3	12	10	30	9	
1	2	52	1	5	1	2	2	4	18	3	
6	14	304	21	31	8	6	12	9	48	25	
18	6	371	30	38	7	15	18	19	62	10	
1	2	72	2	7		1	2	1	10	2	
7	2	226	8	14	14	11	11	12	40	7	
1		135	2	10		5	2	10	17	2	
15	7	361	27	23	5	13	21	25	73	20	
4	7	252	15	17	11	9	13	12	44	6	
1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	
	7.9	10.4	12.3	3.7	13.2	6.0	18.5	10.1	13.2	12.8	
		0.9							1.0		
		1.9		3.7							
		0.7							1.0		
		1.4							1.0		
	7.9	7.2	6.2	13.1				3.4	7.1		
		4.4		7.5	6.6		3.7	6.7	3.0		
		3.5	3.1	5.6	13.2	5.9		3.3	8.1	4.3	
7.4	23.6	4.4	12.3	1.9		11.9		3.3	7.1		
95.6	63.0	143.5	77.2	170.4	105.3	59.5	166.7	194.6	143.9	141.0	
7.4	39.4	29.3	12.3	26.2	19.7	5.9	29.6	20.1	16.2	25.7	
51.5	70.9	73.1	80.2	58.1	86.5	53.6	55.6	43.6	59.8	51.3	
14.7	23.6	47.7	27.8	41.2	26.3	59.5	48.2	47.0	39.5	42.7	
14.7	23.6	7.9	6.2	9.4	6.6		18.5	23.5	11.1	4.3	
80.9	78.7	80.0	95.7	108.6	79.0	95.2	81.5	77.2	83.1	103.8	
213.2	165.4	149.7	223.4	168.5	177.6	214.3	137.0	147.6	166.2	170.9	
66.2	86.6	77.8	74.1	73.0	111.8	71.4	63.0	63.8	73.0	55.6	
22.1	47.2	23.0	12.3	30.0	19.7	29.8	33.3	13.4	19.3	25.6	
36.8	47.2	20.3	24.7	7.5	32.9	17.9	44.4	33.6	30.4	38.5	
7.3	15.8	9.2	3.1	9.4	6.6	11.9	7.4	13.4	18.2	12.8	
44.1	110.2	53.7	64.8	58.1	52.6	35.7	44.4	30.2	48.6	106.8	
132.3	47.2	65.5	92.6	71.2	46.0	89.3	66.7	63.8	62.8	42.7	
7.3	15.8	12.7	6.2	13.1		5.9	7.4	3.3	10.1	8.6	
51.5	15.8	39.9	24.7	26.2	92.1	65.5	40.7	40.3	40.5	29.9	
7.3		23.8	6.2	18.7		29.8	7.4	33.6	17.2	8.6	
110.3	55.1	63.7	83.3	43.1	32.9	77.4	77.8	83.9	74.0	85.5	
29.4	55.1	44.5	46.3	31.8	72.4	53.6	49.2	40.3	44.6	25.6	

TABLE 33.—Deaths of Males and Females 15 Years and Over from

Occupation (Showing annually at least 50 deaths)	Deaths: 1913								
	All causes	Typhoid fever	Other epidemic diseases	Tuberculosis	Cancer	Diseases of nervous system	Diseases of circulatory system	Diseases of respiratory system	Diseases of digestive system
15 YEARS AND OVER	31,584	377	441	4,850	2,544	3,309	6,208	2,740	1,983
Males	19,946	266	235	3,209	1,229	1,988	3,887	1,603	1,215
All occupations	17,045	244	187	2,986	1,051	1,609	3,262	1,453	1,038
Professional	961	14	11	157	63	97	207	76	54
Architects, artists and teachers of art	51			13	2	4	9	3	2
Clergymen	148	1	3	26	10	11	34	16	10
Engineers and surveyors	224	8	2	47	15	18	29	16	11
Lawyers	144	3	1	11	10	25	34	10	7
Musicians and teachers of music	64		1	13	4	4	16	5	1
Physicians and surgeons	155	1	1	19	6	15	46	16	10
Teachers (school)	58		1	12	5	9	15	1	3
Others of this class	117	1	2	16	11	11	24	9	10
Clerical and official	1,334	11	5	291	83	141	232	99	85
Bookkeepers, clerks and copyists	648	6	3	191	33	63	92	52	38
Bankers, brokers and officials of companies	230	3	1	20	21	25	56	10	20
Collectors, auctioneers, agents	329	2		62	22	36	59	28	17
Others of this class	127		1	18	7	17	25	9	10
Mercantile and trading	1,302	19	10	183	95	150	318	99	83
Apothecaries, pharmacists, etc.	66		2	12	5	9	15	5	2
Commercial travelers	60			13	4	5	11	3	3
Merchants and dealers	803	11	9	71	69	107	208	59	55
Hucksters and peddlers	50			12	1	1	11	4	
Others of this class	323	6	1	75	16	28	73	28	23
Public entertainment	407	7	2	76	39	36	55	33	34
Hotel and boardinghouse keepers	109	2		19	14	7	18	8	8
Saloon keepers, liquor dealers, bartenders and restaurant keepers	298	5	2	57	25	29	37	25	26
Personal service, police and military	569	7	8	88	32	58	109	53	33
Barbers and hairdressers	122	3	1	28	7	8	16	7	8
Janitors and sextons	73	1	2	9	3	7	19	9	1
Policemen, watchmen and detectives	124	1	1	10	10	20	27	13	3
Soldiers, sailors and marines (U. S.)	140	1	2	17	8	11	30	18	11
Others of this class	110	1	2	24	4	12	17	6	10
Laboring and servant	3,597	66	36	822	175	243	564	347	207
Laborers (not agricultural)	3,179	63	34	708	152	222	479	315	179
Servants	418	3	2	114	23	21	85	32	28
Manufacturing and mechanical industry	3,483	34	31	532	205	368	732	268	210
Bakers	92	1	1	19	5	8	16	4	5
Blacksmiths	194	4	4	29	15	25	44	10	9
Boot and shoe makers	105		1	11	10	12	27	6	4
Butchers	130	1	2	29	3	13	24	12	9
Cabinetmakers and upholsterers	63		2	8	2	5	15	10	6
Carpenters	652	7	6	88	49	65	151	40	42
Compositors, printers and pressmen	109		2	20	7	16	18	7	9
Engineers and firemen (not locomotive)	208	3		32	10	27	35	14	18
Iron and steel workers	140	2		31	7	13	17	14	10
Machinists	196			36	15	12	32	23	14
Masons (brick and stone)	85	1	1	13	8	8	20	7	2
Painters, glaziers, varnishers	273	3	3	51	10	31	51	23	14
Plumbers, gas and steam fitters	82			25		7	13	4	5
Tailors	128		1	33	5	15	31	7	5
Others of this class	1,029	12	8	157	59	111	238	87	58

Selected Causes, Classified by Occupation, with Per Cents, for California: 1913.

				Per cent													
Bright's disease and nephritis	Stroke	Other violence	All other causes	Typhoid fever	Other epidemic diseases	Tuberculosis	Cancer	Disease of nervous system	Disease of alimentary system	Disease of respiratory system	Disease of digestive system	Bright's disease and nephritis	Stroke	Other violence	All other causes		
2,326	837	2,702	3,258	1.2	1.4	15.4	8.0	10.5	19.6	8.7	6.3	7.4	2.6	8.6	10.3		
1,499	682	2,286	1,717	1.3	1.2	16.6	6.2	9.7	19.4	8.5	6.1	7.5	3.4	11.5	8.6		
1,247	580	1,993	1,445	1.4	1.1	17.2	6.2	9.5	19.1	8.5	6.1	7.3	3.4	11.7	8.5		
88	28	78	88	1.5	1.1	16.3	6.6	10.1	21.5	7.9	5.6	9.2	2.9	8.1	9.2		
7	2	4	5			25.5	3.9	7.9	17.7	5.9	3.9	13.7	3.9	7.8	9.8		
14	6	17	0.7	2.0	17.6	6.8	7.4	23.0	10.8	6.7	9.5			4.0	11.5		
10	8	42	3.6	0.9	21.0	6.7	8.0	12.9	7.1	4.9	4.5	3.6	18.8	8.0			
17	7	4	15	2.1	0.7	7.6	6.9	17.4	23.6	6.9	4.9	11.8	4.9	2.8	10.4		
6	3	4	7			1.6	20.3	6.3	6.2	25.0	7.8	1.6	9.4	4.7	6.2		
20	2	7	12	0.6	0.6	12.3	3.9	9.7	29.7	10.3	6.5	12.9	1.3	4.5	7.7		
6	2	2	4			1.7	20.7	8.6	15.5	25.9	1.7	5.2	10.3		3.5		
8	6	9	10	0.9	1.7	13.7	9.4	9.4	20.5	7.7	8.6	6.8	5.1	7.7	8.5		
112	57	99	119	0.8	0.4	21.8	6.2	10.6	17.4	7.4	6.4	8.4	4.3	7.4	8.9		
40	80	39	61	0.9	0.5	23.5	5.1	9.7	14.2	8.0	5.9	6.2	4.6	6.0	9.4		
25	8	19	22	1.3	0.4	8.7	9.1	10.9	24.3	4.3	8.7	10.9	3.5	8.3	9.6		
33	15	28	27	0.6		18.9	6.7	10.9	17.9	8.5	5.2	10.0	4.6	8.5	8.2		
14	4	13	9		0.8	14.2	5.5	13.4	19.7	7.1	7.9	11.0	3.1	10.2	7.1		
101	46	88	110	1.5	0.8	14.0	7.3	11.5	24.4	7.6	6.4	7.8	3.5	6.8	8.4		
4	2	8	7		3.0	18.2	7.6	13.6	22.7	7.6	3.0	6.1	3.0	4.6	10.6		
2	3	9				21.7	6.7	8.3	18.3	5.0	5.0	3.3	5.0	15.0	11.7		
72	33	37	72	1.4	1.1	8.8	8.6	13.3	25.9	7.3	6.9	9.0	4.1	4.6	9.0		
1	2	10	8			24.0	2.0	2.0	22.0	8.0		2.0	4.0	20.0	16.0		
22	6	29	16	1.9	0.3	23.2	4.9	8.7	22.6	8.7	7.1	6.8	1.9	9.0	4.9		
38	20	27	40	1.7	0.5	18.7	9.6	8.9	13.5	8.1	8.4	9.3	4.9	6.6	9.8		
15	4	4	10	1.8		17.4	12.9	6.4	16.5	7.8	7.3	13.8	3.7	3.7	9.2		
23	16	23	30	1.7	0.7	19.1	8.4	9.7	12.4	8.4	8.7	7.7	5.4	7.7	10.1		
47	21	67	46	1.2	1.4	15.5	5.6	10.2	19.1	9.3	5.8	8.3	3.7	11.8	8.1		
10	8	15	11	2.5	0.8	22.9	5.7	6.6	13.1	5.7	6.6	8.2	6.6	12.3	9.0		
8		8	6	1.4	2.7	12.3	4.1	9.6	26.0	12.3	1.4	11.0		11.0	8.2		
11	5	17	6	0.8	0.8	8.1	8.1	16.1	21.8	10.5	2.4	8.9	4.0	13.7	4.8		
11	4	16	11	0.7	1.4	12.1	5.7	7.9	21.4	12.9	7.9	7.9	2.9	11.4	7.8		
7	4	11	12	0.9	1.8	21.8	3.6	10.9	15.5	5.5	9.1	6.4	3.6	10.0	10.9		
175	148	500	254	1.8	1.0	22.8	4.9	6.8	15.7	9.6	5.7	4.9	4.1	15.6	7.1		
154	127	524	222	2.0	1.1	22.3	4.8	7.0	15.0	9.9	5.6	4.8	4.0	16.5	7.0		
21	21	36	32	0.7	0.5	27.3	5.5	5.0	20.3	7.7	6.7	5.0	5.0	8.6	7.7		
265	115	375	301	1.0	0.9	16.7	5.9	10.6	21.0	7.6	6.0	7.6	3.3	10.8	8.6		
8	6	10	9	1.1	1.1	20.7	5.4	8.7	17.4	4.3	5.4	8.7	6.5	10.9	9.8		
11	17	26	2.1	2.1	14.9	7.7	12.9	22.7	5.1	4.6	5.7			8.8	13.4		
11	6	12	1.0	1.0	10.5	9.5	11.4	25.7	5.7	3.8	10.5	4.8	5.7	11.4			
11	10	7	9	0.8	1.5	22.3	2.3	10.0	18.5	9.2	6.9	8.5	7.7	5.4	6.9		
5	4	4	2	3.2	12.7	7.2	7.9	23.8	15.9	9.5	7.9	6.4	6.3	3.2			
50	22	71	61	1.1	0.9	13.5	3.5	10.0	23.2	6.1	6.4	7.7	3.4	10.9	9.3		
10	3	8	9		1.8	18.3	6.4	14.7	16.5	6.4	8.3	9.2	2.8	7.3	8.3		
15	7	33	14	1.4		15.4	4.8	13.0	16.8	6.7	8.7	7.2	3.4	15.9	6.7		
9	4	25	8	1.4		22.2	5.0	9.3	12.1	10.0	7.1	6.4	2.9	17.9	5.7		
6	11	32	15			18.4	7.7	6.1	16.3	11.7	7.1	3.1	5.6	16.3	7.7		
9	1	5	10	1.2	1.2	15.3	9.4	9.4	23.5	8.2	2.3	10.6	1.2	5.9	11.8		
15	5	31	36	1.1	1.1	18.7	3.7	11.4	18.7	8.4	5.1	5.5	1.8	11.3	13.2		
5	5	12	6			30.5		8.5	15.9	4.9	6.1	6.1	6.1	14.6	7.3		
9	7	5	10		0.8	25.8	3.9	11.7	24.2	5.5	3.9	7.0	5.5	3.9	7.8		
91	25	109	74	1.2	0.8	15.3	5.7	10.8	23.1	8.5	5.6	8.8	2.4	10.6	7.2		

TABLE 33.—Deaths of Males and Females 15 Years and Over from Selected

Occupation (Showing annually at least 50 deaths)	Deaths: 1913								
	All causes	Typhoid fever	Other epidemic diseases	Tuberculosis	Cancer	Diseases of nervous system	Diseases of circulatory system	Diseases of respiratory system	Diseases of digestive system
Agriculture, transportation and other outdoor	5,278	84	79	713	352	509	1,026	475	323
Draymen, hackmen and teamsters	445	9	4	87	18	34	68	50	20
Farmers, planters and farm laborers	2,275	35	48	252	183	265	493	215	138
Gardeners, florists, nurserymen and vine growers	197	2	1	25	15	15	43	24	7
Livery stable keepers and hostlers	63			5	1	3	14	8	7
Lumbermen and raftsmen	129	3	3	13	11	8	15	63	10
Miners and quarrymen	764	5	9	123	42	55	165	63	51
Sailors, pilots and oystermen	244	8	2	40	13	21	48	24	13
Steam railroad employees	379	6	1	68	17	35	42	20	24
Stockraisers, herders and drovers	452	9	9	54	32	49	76	40	35
Others of this class	330	7	2	46	20	24	61	24	20
All other occupations	111	2	5	24	7	7	19	3	4
No occupation	2,901	22	43	363	178	329	625	240	177
<i>Females</i>	11,638	111	206	1,560	1,315	1,371	2,321	1,047	768
All occupations	1,186	13	15	204	131	133	201	99	86
Teachers in schools	110	2	2	26	18	15	13	7	8
Bookkeepers, clerks and copyists	63	3	3	17	5	8	3	3	4
Nurses and midwives	82	2		7	15	4	16	6	7
Servants	279	1	3	49	22	37	50	27	15
Dressmakers and seamstresses	95			8	18	9	18	2	10
All other occupations	557	5	7	97	53	60	101	54	42
No occupation	10,452	98	191	1,356	1,184	1,238	2,120	943	682

Causes, Classified by Occupation, with Per Cents, for California: 1913—Concluded.

Per cent															
Bright's disease and nephritis.	Suicide	Other violence.	All other causes.	Typhoid fever.	Other splenic diseases.	Tuberculosis.	Cancer.	Diseases of nervous system.	Diseases of circulatory system.	Diseases of respiratory system.	Diseases of digestive system.	Bright's disease and nephritis.	Suicide	Other violence.	All other causes.
414	139	676	483	1.6	1.5	13.5	6.7	9.6	19.4	9.0	6.2	7.9	2.6	12.8	9.2
31	13	78	32	2.0	0.9	10.6	4.1	7.6	15.5	11.2	4.5	7.0	2.9	17.5	7.2
183	42	175	246	1.5	2.1	11.1	8.0	11.7	21.7	9.5	6.1	8.0	1.8	7.7	10.8
23	8	16	18	1.0	0.5	12.7	7.6	7.6	21.8	12.2	3.6	11.7	4.1	8.1	9.1
6		11	3			7.9	1.6	12.7	22.2	12.7	11.1	9.5		17.5	4.8
11	4	38	11	2.3	2.3	10.1	8.5	2.3	11.7	5.4	7.8	8.5	3.1	29.5	8.5
63	18	99	71	0.6	1.2	16.1	5.5	7.2	21.6	8.2	6.7	8.2	2.4	13.0	9.3
12	8	37	18	3.3	0.8	16.4	5.3	8.6	19.7	9.3	5.3	4.9	8.3	15.2	7.4
30	14	101	21	1.6	0.3	17.9	4.5	9.2	11.1	5.3	6.3	7.9	3.7	26.7	5.5
41	16	44	44	2.0	2.0	12.0	7.1	10.8	16.8	8.9	8.4	9.1	3.5	9.7	9.7
14	16	77	19	2.1	0.6	13.9	6.1	7.3	18.5	7.3	6.1	4.2	4.8	23.3	5.8
7	6	23	4	1.8	4.5	21.7	6.3	6.3	17.1	2.7	3.6	6.3	5.4	20.7	3.6
252	102	298	272	0.8	1.7	12.5	6.1	11.3	21.5	8.3	6.1	8.7	3.5	10.1	9.4
527	155	416	1,541	1.0	1.8	13.4	11.3	11.8	19.9	9.0	6.6	7.1	1.3	3.6	13.2
70	25	71	138	1.1	1.3	17.2	11.0	11.2	17.0	8.3	7.3	5.9	2.1	6.0	11.6
5	2	6	6	1.8	1.8	23.6	16.4	13.6	11.8	6.4	7.3	4.5	1.8	5.5	5.5
2	2	5	8	4.8	4.8	27.0	7.9	12.7	4.8	4.7	6.3	3.2	3.2	7.9	12.7
7		5	13	2.5		8.5	18.3	4.9	19.5	7.3	8.5	8.5		6.1	15.9
23	6	17	29	0.4	1.1	17.6	7.9	13.2	17.9	9.7	5.4	8.2	2.1	6.1	10.4
12	2	3	13			8.4	19.0	9.5	18.9	2.1	10.5	12.6	2.1	3.2	13.7
21	13	35	69	0.9	1.3	17.4	9.5	10.8	18.1	9.7	7.5	3.8	2.3	6.3	12.4
757	130	345	1,403	0.9	1.8	18.0	11.3	11.9	20.3	9.1	6.5	7.2	1.3	3.3	13.4

TABLE 34.—Deaths of Males and Females 15 Years and Over from Selected

Occupation (Showing annually at least 50 deaths)	Deaths: 1912									
	All causes	Typhoid fever	Other epidemic diseases	Tuberculosis	Cancer	Diseases of nervous system	Diseases of circulatory system	Diseases of respiratory system	Diseases of digestive system	Diseases of all-otive system
15 YEARS AND OVER -----	30,174	365	381	4,645	2,288	2,831	6,255	2,779	2,020	
Males -----	19,001	264	210	3,069	1,084	1,702	3,921	1,703	1,305	
All occupations-----	16,391	239	191	2,746	970	1,401	3,310	1,450	1,056	
Professional -----	989	9	7	156	65	118	206	57	53	
Architects, artists and teachers of art-----	59		1	9	7	5	12	3	5	
Clergymen-----	109			11	8	13	22	14	9	
Engineers and surveyors-----	250	7		46	12	28	55	9	8	
Lawyers-----	133		1	19	10	19	36	9	6	
Musicians and teachers of music-----	81	1		33	6	5	8	7	8	
Physicians and surgeons-----	147	1	3	11	10	27	88	8	11	
Others of this class-----	160		2	27	12	21	35	7	8	
Clerical and official -----	1,212	9	12	254	65	111	273	92	91	
Bookkeepers, clerks and copyists-----	570	4	7	179	22	44	108	43	45	
Bankers, brokers and officials of companies-----	193	2	4	16	11	21	49	21	12	
Collectors, auctioneers and agents-----	339	2	1	42	27	35	87	24	27	
Others of this class-----	110	1		17	5	11	29	4	12	
Mercantile and trading -----	1,303	16	8	188	98	111	334	95	94	
Apothecaries, pharmacists, etc.-----	67		1	9	3	5	19	2	4	
Merchants and dealers-----	819	11	6	83	69	74	238	66	66	
Hucksters and peddlers-----	52			10		2	10	4	3	
Others of this class-----	365	5	1	86	26	30	67	23	24	
Public entertainment -----	372	5	3	58	15	41	63	31	46	
Hotel and boarding-house keepers-----	100	2		12	4	14	23	8	12	
Saloon keepers, liquor dealers, bartenders, restaurant keepers-----	272	3	3	46	11	27	40	23	31	
Personal service, police, military -----	450	9	7	72	23	36	81	41	35	
Barbers and hairdressers-----	100	4	1	24	5	10	16	6	4	
Police-men, watchmen, detectives-----	94	1	2	6	7	9	18	13	10	
Soldiers, sailors, marines (U. S.)-----	128	2	2	15	5	11	21	8	13	
Others of this class-----	128	2	2	27	6	6	26	14	8	
Laboring and servant -----	3,420	65	35	724	144	222	534	333	194	
Laborers (not agricultural)-----	3,005	59	32	622	131	192	463	291	171	
Servants-----	415	6	3	102	13	30	71	35	23	
Manufacturing and mechanical industry -----	3,349	41	34	579	199	314	705	258	233	
Bakers-----	89	4		16	2	12	22	3	3	
Blacksmiths-----	177	1	4	22	12	19	42	22	12	
Boot and shoe makers-----	96	2		9	6	9	26	9	7	
Butchers-----	113	2		19	6	7	20	11	17	
Cabinet makers and upholsterers-----	59	1	1	7	10	7	13	1	4	
Carpenters-----	685	6	11	83	48	71	166	62	34	
Compositors, printers and pressmen-----	98			28	6	4	17	10	10	
Engineers and firemen (not locomotive)-----	201	1	3	35	10	13	41	11	14	
Iron and steel workers-----	168	4	2	30	8	10	42	14	9	
Machinists-----	170	5	2	33	12	16	23	7	8	
Masons (brick and stone)-----	89		1	14	8	7	18	4	7	
Painters, glaziers, varnishers-----	255	4	3	59	9	25	48	21	14	
Plumbers, gas and steam fitters-----	94	1		30	2	9	14	7	3	
Tailors-----	134			36	4	12	25	9	8	
Others of this class-----	921	10	7	158	56	93	188	67	67	

Causes, Classified by Occupation, with Per Cents, for California: 1912.

				Per cent												
Bright's disease and nephritis	Suicide	Other violence	All other causes	Typhoid fever	Other epidemic diseases	Tuberculosis	Cancer	Diseases of nervous system	Diseases of circulatory system	Diseases of respiratory system	Diseases of digestive system	Bright's disease and nephritis	Suicide	Other violence	All other causes	
2,131	802	2,563	3,114	1.2	1.3	15.4	7.6	9.4	20.7	9.2	6.7	7.1	2.6	8.5	10.3	
1,381	676	2,155	1,631	1.4	1.1	16.1	5.7	9.0	20.6	9.0	6.3	7.3	3.6	11.3	8.6	
1,203	576	1,891	1,358	1.5	1.2	16.8	5.9	8.6	20.2	8.8	6.4	7.3	3.5	11.5	8.3	
91	27	79	69	1.0	0.7	16.6	6.9	12.6	21.9	6.1	5.9	9.7	2.9	8.4	7.3	
4	4	5	4		1.7	15.2	11.8	8.5	20.3	5.1	8.5	6.8	6.8	8.5	6.8	
14	1	5	12		10.1	10.1	7.3	11.9	20.2	12.9	8.3	12.8	0.9	4.6	11.0	
19	10	43	13	2.8		18.4	4.8	11.2	22.0	3.6	3.2	7.6	4.0	17.2	5.2	
20	2	4	7		0.7	14.3	7.5	14.3	27.1	6.8	4.5	15.0	1.5	3.0	5.3	
3	3	5	2	1.2		40.7	7.4	6.2	9.9	8.6	9.9	3.7	3.7	6.2	2.5	
18	1	4	15	0.7	2.0	7.5	6.8	18.4	25.9	5.4	7.5	12.2	0.7	2.7	10.2	
13	6	13	16		1.3	16.9	7.5	13.1	21.9	4.4	5.0	8.1	3.7	8.1	10.0	
105	54	71	70	0.7	1.0	20.9	5.4	9.2	22.5	7.6	7.9	8.7	4.4	5.9	5.8	
38	24	29	27	0.7	1.2	31.4	3.9	7.7	19.0	7.5	7.9	6.7	4.2	5.1	4.7	
20	11	13	13	1.0	2.1	8.3	5.7	10.9	25.4	10.9	6.2	10.4	5.7	6.7	6.7	
32	17	18	27	0.6	0.3	12.4	8.0	10.3	25.6	7.1	8.0	9.4	5.0	5.3	8.0	
15	2	11	3	0.9		15.5	4.6	10.0	26.4	3.6	10.9	13.6	1.8	10.0	2.7	
116	51	91	101	1.2	0.6	14.4	7.5	8.5	25.7	7.3	7.2	8.9	3.9	7.0	7.8	
11	3	5	5		1.5	13.4	4.5	7.5	23.3	3.0	6.0	16.4	4.5	7.5	7.4	
65	30	46	68	1.4	0.7	10.1	8.4	9.0	29.1	8.1	7.7	7.9	3.7	5.6	8.3	
6	1	10	6			19.2		3.9	19.2	7.7	5.8	11.6	1.9	19.2	11.5	
34	17	30	22	1.4	0.3	23.6	7.1	8.2	18.3	6.3	6.6	9.3	4.7	8.2	6.0	
26	21	25	41	1.4	0.8	15.6	4.0	11.0	16.9	8.3	11.6	7.0	5.7	6.7	11.0	
3	8	6	8	2.0		12.0	4.0	14.0	23.0	8.0	12.0	3.0	8.0	6.0	8.0	
23	13	19	33	1.1	1.1	16.9	4.0	9.9	14.7	8.5	11.4	8.5	4.8	7.0	12.1	
32	26	41	47	2.0	1.6	16.0	5.1	8.0	18.0	9.1	7.8	7.1	5.8	9.1	10.4	
5	6	6	13	4.0	1.0	24.0	5.0	10.0	16.0	6.0	4.0	5.0	6.0	6.0	13.0	
9	4	9	6	1.1	2.1	6.4	7.4	9.6	19.1	13.8	10.6	9.6	4.3	9.6	6.4	
6	11	17	17	1.6	1.6	11.7	3.9	8.6	16.4	6.2	10.1	4.7	8.6	13.3	13.3	
12	5	9	11	1.6	1.6	21.1	4.7	4.7	20.3	10.9	6.2	9.4	3.9	7.0	8.6	
189	141	585	261	1.9	1.0	21.2	4.2	6.5	15.6	9.6	5.7	5.5	4.1	17.1	7.6	
161	114	541	227	2.0	1.1	20.7	4.4	6.4	15.4	9.7	5.7	5.3	3.8	18.0	7.5	
28	27	44	34	1.5	0.7	24.6	3.1	7.2	17.1	3.4	5.3	6.8	6.5	10.6	8.2	
265	126	306	298	1.2	1.0	17.3	5.9	9.4	21.1	7.7	6.6	7.9	3.8	9.2	8.9	
5	4	6	7	4.5		18.0	2.2	13.5	24.7	3.4	9.0	5.6	4.5	6.7	7.9	
12	6	8	17	0.6	2.3	12.4	6.8	10.7	23.7	12.4	6.8	6.8	3.4	4.5	9.6	
14	4	1	9	2.1		9.4	6.2	9.4	27.1	9.4	7.3	14.6	4.1	1.0	9.4	
9	3	10	9	1.8		16.8	5.3	6.2	17.7	9.7	15.0	8.0	2.7	8.8	8.0	
5	3	3	4	1.7	1.7	11.9	16.9	11.8	22.0	1.7	6.8	8.5	5.1	5.1	6.8	
56	18	64	66	0.9	1.6	12.1	7.0	10.4	24.2	9.1	5.0	8.2	2.6	9.3	9.6	
5	3	3	12			28.6	6.1	4.1	17.3	10.2	10.2	5.1	3.1	3.1	12.2	
16	6	34	17	0.5	1.5	17.4	5.0	6.5	20.4	5.5	7.0	7.9	3.0	16.9	8.4	
11	6	24	8	2.4	1.2	17.9	4.8	5.9	25.0	8.3	5.3	6.9	3.6	14.3	4.8	
13	9	29	14	2.9	1.2	19.4	7.1	9.4	13.5	4.1	4.1	7.7	5.3	17.1	8.2	
10	2	4	13		1.1	15.7	9.0	7.9	20.2	4.5	9.0	11.2	2.3	4.5	14.6	
22	14	20	16	1.6	1.2	23.1	3.5	9.8	18.8	8.2	5.5	8.6	5.5	7.9	6.3	
6	4	13	5	1.1		31.9	2.1	9.6	14.9	7.4	3.2	6.4	4.3	13.8	5.3	
11	11	7	11			26.9	3.0	8.9	18.7	6.7	6.0	8.2	8.2	5.2	8.2	
70	33	82	90	1.1	0.7	17.1	6.1	10.1	20.4	7.3	7.3	7.6	3.6	8.9	9.8	

TABLE 34.—Deaths of Males and Females 15 Years and Over from Selected

Occupation (Showing annually at least 50 deaths)	Deaths: 1912								
	All causes	Typhoid fever	Other epidemic diseases	Tuberculosis	Cancer	Diseases of nervous system	Diseases of circulatory system	Diseases of respiratory system	Diseases of digestive system
Agricultural, transportation and other outdoor	5,208	84	82	685	355	435	1,097	538	336
Draymen, hackmen, teamsters	408	6	4	82	16	30	70	44	30
Farmers, planters and farm laborers	2,570	48	55	251	200	250	599	288	158
Gardeners, florists, nurserymen and vine growers	193	3		30	17	7	45	22	19
Livery stable keepers and hostlers	56		1	6	4	7	13	2	2
Lumbermen and raftsmen	139	3	2	16	5	5	25	10	6
Miners and quarrymen	728	5	7	133	44	45	157	69	38
Sailors, pilots and oystermen	244	4	2	25	12	25	49	31	10
Steam railroad employees	363	5	6	64	21	21	54	20	19
Stock raisers, herders and drovers	216	3	1	26	23	25	38	26	10
Others of this class	291	7	4	52	13	20	47	26	14
All other occupations	138	1	3	30	6	13	17	12	11
No occupation	2,610	25	19	323	114	301	611	253	149
<i>Females</i>	11,173	101	171	1,576	1,204	1,129	2,334	1,076	815
All occupations	1,024	20	11	240	84	88	191	84	71
Teachers in schools	101	2	3	22	13	14	12	12	5
Bookkeepers, clerks, copyists	68	1	2	27	5	4	9	5	3
Nurses and midwives	85	5		17	12	4	19	4	10
Servants	240	4	1	53	11	20	52	17	14
Dressmakers and seamstresses	84	2	1	25	9	6	7	6	6
All other occupations	446	6	4	96	34	40	92	40	33
No occupation	10,149	81	160	1,336	1,120	1,041	2,143	992	744

Causes, Classified by Occupation, with Per Cents, for California: 1912—Continued.

	Per cent														
	Brigit's disease and nephritis	Suicide	Other violence	All other causes	Typhoid fever	Other epidemic diseases	Tuberculosis	Cancer	Diseases of nervous system	Diseases of circulatory system	Diseases of respiratory system	Diseases of digestive system	Brigit's disease and nephritis	Suicide	Other violence
369	125	673	459	1.6	1.6	13.2	6.8	8.3	21.1	10.3	5.9	7.1	2.4	12.9	8.8
17	9	75	25	1.5	1.0	20.1	3.9	7.3	17.2	10.8	7.3	4.2	2.2	18.4	6.1
211	51	201	258	1.9	2.1	9.8	7.8	9.7	23.3	11.2	6.2	8.2	2.0	7.8	10.0
16	3	15	16	1.6	-----	15.5	8.8	3.0	23.3	11.4	9.8	8.3	1.6	7.8	8.3
7	5	4	5	-----	1.8	10.7	7.2	12.5	23.2	3.6	3.6	12.5	8.9	7.1	8.9
7	3	46	11	2.2	1.4	11.5	3.6	3.6	18.0	7.2	4.3	5.0	2.2	33.1	7.9
44	14	106	68	0.7	1.0	18.3	6.0	6.2	21.6	9.5	5.2	6.0	1.9	14.5	9.1
15	11	43	17	1.6	0.8	10.2	4.9	10.3	20.1	12.7	4.1	6.2	4.5	17.6	7.0
22	13	102	16	1.4	1.6	17.6	5.8	5.8	14.9	5.5	5.2	6.1	3.6	28.1	4.4
16	4	19	25	1.4	0.5	12.0	10.6	11.6	17.6	12.0	4.6	7.4	1.9	8.8	11.6
14	12	62	20	2.4	1.4	17.9	4.5	6.9	16.1	8.9	4.8	4.8	4.1	21.3	6.9
10	5	18	22	0.7	2.2	21.7	4.4	9.4	12.3	8.7	8.0	7.3	3.6	13.0	8.7
178	100	264	273	1.0	0.7	12.4	4.4	11.5	23.4	9.7	5.7	6.8	3.8	10.1	10.5
750	126	408	1,483	0.9	1.5	14.1	10.8	10.1	20.9	9.6	7.3	6.7	1.1	3.7	13.3
55	20	62	98	1.9	1.1	23.4	8.2	8.6	18.7	8.2	6.9	5.4	1.9	6.1	9.6
3	1	6	8	2.0	3.0	21.8	12.9	13.8	11.9	11.9	4.9	3.0	1.0	5.9	7.9
3	3	4	5	1.5	2.9	39.7	7.4	5.9	13.2	7.4	4.4	-----	4.4	5.9	7.3
2	-----	-----	12	5.9	-----	20.0	14.1	4.7	22.3	4.7	11.8	2.4	-----	-----	14.1
16	9	20	23	1.7	0.4	22.1	4.6	8.3	21.7	7.1	5.8	6.7	3.7	8.3	9.6
4	2	5	11	2.4	1.2	29.8	10.7	7.1	8.3	7.1	7.1	4.8	2.4	6.0	13.1
30	5	27	39	1.4	0.9	21.5	7.6	9.0	20.6	9.0	7.4	6.7	1.1	6.1	8.7
665	106	346	1,385	0.8	1.6	13.2	11.0	10.3	21.1	9.8	7.3	6.9	1.0	3.4	13.6

IV. STATISTICS OF MARRIAGES: 1913 AND 1912.

SYNOPSIS.

General Marriage Statistics.—Of the 31,383 marriages in 1913 and the 31,276 in 1912, those which were the first for both parties numbered 22,494 and 22,811, respectively, the per cents being 71.7 and 72.9 against the annual average of 72.8 for 1909 to 1913. The per cent distribution of marriages by number in order was about the same for 1912 as for the five year period, while 1913 shows comparatively few first marriages for both parties but relatively many where one or both parties had been married before.

The proportion of first marriages was considerably higher each year for San Francisco than for any other geographic division, though not as high as for certain small counties in the interior. The proportion of marriages where both parties were single is very low indeed, however, for Marin and San Mateo counties adjoining San Francisco, as well as for Orange adjoining Los Angeles.

In 1913 there were 3,606 marriages of single men with widows or divorcees, but only 2,469 marriages of single women with widowers or divorced men, the corresponding figures for 1912 being 3,422 and 2,387. Each year only six counties showed exceptions to the rule that there are more unions of bachelors with widows than of maids with widowers.

In 2,814 cases, or 8.9 per cent of all, in 1913 and in 2,656, or 8.5 per cent, in 1912, the marriages were the second or over for both grooms and brides. Marriages where both parties were widowed or divorced occur less in the metropolis than in the suburbs, and less in the whole urban area than in sparsely settled rural counties.

In 1913 and 1912, respectively, the single grooms numbered 26,100 and 26,233; the widowed 2,739 and 2,602; and the divorced 2,544 and 2,441. The per cents single were 83.2 and 83.9 as compared with the annual average of 83.8 for 1909 to 1913.

The single brides totaled 24,963 and 25,198 in 1913 and 1912, respectively; the widowed 3,181 and 3,014; and the divorced 3,239 and 3,064. The per cents single were 79.6 and 80.6 against the annual average of 80.6 for the last five years.

The per cents divorced, among both grooms and brides, were somewhat greater in 1913 and 1912 than the respective averages for 1909 to 1913. Through the past seven years, in fact, the per cent of divorcees among brides increased steadily, thus; 7.4 (1907), 7.7, 8.4, 9.5, 9.6, 9.8, and 10.3 (1913).

The years 1912 and 1913 are the first since the beginning of registration in 1905 to show divorcees ahead of widows in the number remarrying.

The widows outnumbered the widowers by 442, or 16.1 per cent, in 1913 and by 412, or 15.8 per cent, in 1912. Similarly, the divorcees outnumbered the divorced men by 695, or 27.3 per cent, in 1913 and by 623, or 25.5 per cent, in 1912.

The per cents widowed and divorced, both among grooms and brides, generally speaking, were greater each year for the counties south of Tehachapi than for those to the north.

More widowers, as well as widows, remarry in the country districts than in urban centers and, in the latter, more remarry in the suburbs than in the metropolis proper.

Divorced men and women likewise marry again considerably more in the surrounding suburbs than within the main city.

The high marriage-rates for suburban counties are largely due to the fact that these places are preferred by city couples, especially by divorced persons marrying once more.

Nativity of California Brides.—Of the 31,383 brides in 1913 only 1,294, or 4.1 per cent, were non-Caucasians, and of 31,276 in 1912 only 1,444, or 4.6 per cent, belonged to other than the white race. The Japanese, Chinese and Indian brides were nearly all single, while the negro brides included many widows and divorcees.

The white brides totaled 30,089 in 1913 and 29,832 in 1912, and among them the single were 23,853 and 23,931, respectively; the widowed, 3,070 and 2,916; and the divorced, 3,166 and 2,985.

The white brides were classified by nativity as follows: California, 10,804 and 11,203 in 1913 and 1912, respectively; other states, 13,271 and 12,713; and foreign born, 6,014 and 5,916.

The per cents single among all white brides were only 79.3 and 80.2 in 1913 and 1912 against the annual average of 80.4 for 1909 to 1913. On the other hand, the per cents divorced were no less than 10.5 and 10.0 as compared with the average of 9.6 for the last five years. In fact, the per cent of divorcees among white brides increased steadily ever since 1907, thus: 7.4 (1907), 7.7, 8.4, 9.6, 9.7, 10.0, and 10.5 (1913).

For Californian, other American, and foreign born white brides alike, the per cents single in 1913 and 1912 were generally below the average for 1909 to 1913; the per cents widowed substantially the same as the average; and the per cents divorced, almost without exception, considerably above the average. Each class of brides also shows a steady increase in the per cent divorced between 1907 and 1913.

The proportion of widows among all white brides was greater in 1913 and 1912 for Southern California than for Northern or Central California, while the proportion of divorcees was somewhat less each year for the counties south of Tehachapi than for those to the north.

Widows remarry more in country districts than in urban centers, but divorcees remarry more in the metropolitan area than in the rural counties. However, both widows and divorcees remarry more in suburban counties, like Marin and San Mateo, than in San Francisco, the metropolis proper.

In substantially each element of the population—Californian, other American, or foreign—more divorcees, as well as widows, remarry in the suburban territory than within the metropolis itself.

The per cent distribution of white brides by nativity was as follows for 1913 and 1912: California, 35.9 and 37.6; other states, 44.1 and 42.6; and foreign, 20.0 and 19.8. The annual average per cents for 1909 to 1913 were: California, 38.4; other states, 42.1; and foreign, 19.5.

Over half the white brides in both 1913 and 1912 were native daughters in as many as thirty counties, all north of Tehachapi. On the other hand, over half the brides both years were born in other states in only seven counties in or near Southern California, while at least one fourth

of the brides each year were foreign born merely in San Francisco and two other counties.

In 1913 and 1912, respectively, the per cents born in California among the single white brides were 38.6 and 40.2 against the average of 41.2 for 1909 to 1913; among the divorced were 30.2 and 31.3 against the average of 31.7; and among the widowed were 20.8 and 22.4 against the average of 22.4. In all parts of the State the native daughters form the bulk of the single brides and a large proportion of the divorced, but a small proportion of the widowed.

In 1913 and 1912 the per cents born elsewhere in the United States than here, among the divorced were 56.3 and 55.9 against the average of 55.2 for the past five years; among the widowed were 53.2 and 51.9 against the average of 52.1; and among the single were only 41.3 and 39.8 against the average of 39.3. In general, a larger proportion of the divorcees than of the widows remarrying in California were born elsewhere in the United States, while relatively few of the single brides here were born in other states.

The per cents foreign born in 1913 and 1912, respectively, among the widowed were 26.0 and 25.7 as compared with the average for 1909 to 1913 of 25.5; among the single were 20.1 and 20.0 as compared with the average of 19.5; and among the divorced were only 13.5 and 12.8 as compared with the average of 13.1. Throughout California, as a rule, the proportion of foreign born brides is highest among the widowed, and next among the single, being very low indeed among the divorced.

While the bulk of the single brides were born in California or other states, the great bulk of the divorcees were born elsewhere in the United States, and most of the widows were likewise born outside of California, either in other states or abroad. The proportion foreign born, though relatively great among widows, is especially small among divorcees, nearly all the divorced brides being natives of California or other states.

GENERAL MARRIAGE STATISTICS.

Number in Order.—Table 1, which follows, shows the number in order of marriages, with per cents, for the three main and eight minor geographic divisions, as well as certain other groups of counties, in both 1913 and 1912. Similar figures for individual counties, arranged alphabetically, may be found in Tables 9 and 10, *post*.

TABLE 1.—Marriages Classified by Number in Order, with Per Cents, for Geographic Divisions:* 1913 and 1912.

Geographic division	Total marriages	Number of marriage				Per cent of marriages			
		First of both parties	First of groom only	First of bride only	Second or over of both	First of both parties	First of groom only	First of bride only	Second or over of both
1913									
THE STATE -----	31,383	22,494	3,606	2,469	2,814	71.7	11.5	7.9	8.9
<i>Northern California</i> -----	2,287	1,676	260	155	196	73.3	11.3	6.8	8.6
Coast counties -----	1,131	837	122	90	92	74.0	10.8	7.1	8.1
Interior counties -----	1,156	839	138	75	104	72.6	11.9	6.5	9.0
<i>Central California</i> -----	16,947	12,366	1,975	1,262	1,344	73.0	11.7	7.4	7.9
San Francisco -----	5,940	4,520	634	399	387	76.1	10.7	6.7	6.5
Other bay counties -----	4,583	3,188	575	409	411	69.6	12.5	8.9	9.0
Coast counties -----	1,681	1,208	189	143	141	71.9	11.2	8.5	8.4
Interior counties -----	4,743	3,450	577	311	405	72.7	12.2	6.6	8.5
<i>Southern California</i> -----	12,149	8,452	1,371	1,052	1,274	69.6	11.3	8.6	10.5
Los Angeles -----	7,564	5,365	826	638	755	70.7	10.9	8.4	10.0
Other counties -----	4,565	3,087	545	414	519	67.6	11.9	9.1	11.4
<i>Northern and Central California</i> -----	19,234	14,042	2,235	1,417	1,540	73.0	11.6	7.4	8.0
Coast counties -----	13,335	9,753	1,520	1,081	1,081	73.2	11.4	7.7	7.7
Interior counties -----	5,899	4,289	715	386	509	72.7	12.1	6.6	8.6
Metropolitan area -----	10,523	7,708	1,209	808	798	73.2	11.5	7.7	7.6
Rural counties -----	8,711	6,334	1,026	609	742	72.7	11.8	7.0	8.5
1912									
THE STATE -----	31,276	22,811	3,422	2,387	2,656	72.9	11.0	7.6	8.5
<i>Northern California</i> -----	2,328	1,780	211	151	186	76.4	9.1	6.5	8.0
Coast counties -----	1,176	909	103	70	94	77.3	8.8	5.9	8.0
Interior counties -----	1,152	871	108	81	92	75.6	9.4	7.0	8.0
<i>Central California</i> -----	17,271	12,840	1,901	1,262	1,268	74.4	11.0	7.3	7.3
San Francisco -----	6,102	4,810	572	388	332	78.8	9.4	6.4	5.4
Other bay counties -----	4,710	3,305	610	393	402	70.2	13.0	8.3	8.5
Coast counties -----	1,737	1,257	183	126	171	72.4	10.5	7.3	9.8
Interior counties -----	4,722	3,468	596	355	363	73.4	11.4	7.5	7.7
<i>Southern California</i> -----	11,677	8,191	1,310	974	1,202	70.2	11.2	8.3	10.3
Los Angeles -----	7,490	5,352	794	602	742	71.5	10.6	8.0	9.9
Other counties -----	4,187	2,839	516	372	460	67.8	12.3	8.9	11.0
<i>Northern and Central California</i> -----	19,599	14,620	2,112	1,413	1,454	74.6	10.8	7.2	7.4
Coast counties -----	13,725	10,281	1,468	977	999	74.9	10.7	7.1	7.3
Interior counties -----	5,874	4,339	644	436	455	73.9	11.0	7.4	7.7
Metropolitan area -----	10,812	8,115	1,182	781	734	75.1	10.9	7.2	6.8
Rural counties -----	8,787	6,506	930	632	720	74.0	10.6	7.2	8.2

*For list of counties included in geographic divisions, see page 26.

5.4, respectively, or the lowest of all each year, for San Francisco alone. Marriages between widowed or divorced men and women occur less in San Francisco than in the suburbs and less in an urban center like San Francisco or Los Angeles than in sparsely settled rural districts. Thus, it appears from Tables 9 and 10, *post*, that the counties in which over one tenth of the marriages were between widowers and widows were suburban or rural counties, as follows: Lassen, Madera, Marin, Orange, Riverside, Sacramento, San Diego, Santa Barbara, Shasta, Siskiyou, Sonoma, Tehama, and Trinity in 1913; and Butte, El Dorado, Inyo, Lake, Marin, Orange, Riverside, San Diego, San Mateo, Santa Clara, and Yuba in 1912.

Status of Grooms.—The table which follows gives for each geographic division in 1913 and 1912 the civil status or marital condition of the grooms—whether single, widowed, or divorced—at the time of marriage. Similar figures for individual counties, arranged alphabetically, appear in Tables 9 and 10, *post*.

TABLE 2.—Grooms Classified by Marital Condition, with Per Cents, for Geographic Divisions: 1913 and 1912.

Geographic division	Grooms				Per cent		
	Total	Single	Widowed	Divorced	Single	Widowed	Divorced
1913							
THE STATE	31,383	26,100	2,739	2,544	83.2	8.7	8.1
Northern California	2,287	1,933	180	171	84.6	7.9	7.5
Coast counties	1,131	959	83	86	84.8	7.6	7.6
Interior counties	1,156	977	94	85	84.5	8.1	7.4
Central California	16,947	14,341	1,298	1,308	84.6	7.7	7.7
San Francisco	5,940	5,154	397	389	86.8	6.7	6.5
Other bay counties	4,583	3,763	375	445	82.1	8.2	9.7
Coast counties	1,681	1,397	148	136	83.1	8.8	8.1
Interior counties	4,743	4,027	378	338	84.9	8.0	7.1
Southern California	12,149	9,823	1,261	1,085	80.8	10.4	8.8
Los Angeles	7,584	6,191	765	628	81.6	10.1	8.3
Other counties	4,565	3,632	496	437	79.5	10.9	9.6
Northern and Central California	19,234	16,277	1,478	1,479	84.6	7.7	7.7
Coast counties	13,335	11,273	1,003	1,056	84.5	7.6	7.9
Interior counties	5,899	5,004	472	423	84.8	8.0	7.2
Metropolitan area	10,523	8,917	772	834	84.8	7.3	7.9
Rural counties	8,711	7,360	706	645	84.5	8.1	7.4
1912							
THE STATE	31,276	26,233	2,602	2,441	83.9	8.3	7.8
Northern California	2,328	1,991	179	158	85.5	7.7	6.8
Coast counties	1,176	1,012	83	78	86.1	7.3	6.6
Interior counties	1,152	979	93	80	85.0	8.1	6.9
Central California	17,271	14,741	1,222	1,308	85.3	7.1	7.6
San Francisco	6,102	5,382	357	363	88.2	5.9	5.9
Other bay counties	4,710	3,915	370	425	83.1	7.9	9.0
Coast counties	1,737	1,440	136	161	82.9	7.8	9.3
Interior counties	4,722	4,004	359	359	84.8	7.6	7.6
Southern California	11,677	9,501	1,201	975	81.4	10.3	8.3
Los Angeles	7,490	6,146	765	579	82.1	10.2	7.7
Other counties	4,187	3,355	436	393	80.1	10.4	9.5
Northern and Central California	19,599	16,732	1,401	1,466	85.4	7.1	7.5
Coast counties	13,725	11,749	949	1,027	85.6	6.9	7.5
Interior counties	5,874	4,983	452	439	84.8	7.7	7.5
Metropolitan area	10,812	9,297	727	788	86.0	6.7	7.3
Rural counties	8,787	7,435	674	678	84.6	7.7	7.7

Table 2 shows that of 31,383 grooms in 1913, some 26,100, or 83.2 per cent, were single; 2,739, or 8.7 per cent, widowed; and 2,544, or 8.1 per cent, divorced. Of the 31,276 grooms in 1912, the single were 26,233, or 83.9 per cent; the widowed 2,602, or 8.3 per cent; and the divorced 2,441, or 7.8 per cent.

The following tabular statement summarizes the per cents for the State for the five years, 1909 to 1913:

Marital condition	Per cent of grooms					
	Annual average: 1909 to 1913	1913	1912	1911	1910	1909
STATE TOTAL -----	100.0	100.0	100.0	100.0	100.0	100.0
Single -----	83.8	83.2	83.9	84.2	83.5	84.1
Widowed -----	8.7	8.7	8.3	8.5	8.8	9.0
Divorced -----	7.5	8.1	7.8	7.3	7.7	6.9

The per cent for single grooms in 1913 (83.2) falls below the average of 83.8 for 1909 to 1913, while the per cent in 1912 (83.9) was virtually the same as the five-year average. The per cent for widowed grooms was exactly the same in 1913 as for the five-year period (8.7), though in 1912 (8.3) it stood below the average. The per cents divorced in both 1913 and 1912 (8.1 and 7.8, respectively) were somewhat above the five-year average of only 7.5.

It appears from Table 2, *ante*, that in 1913 and 1912 relatively more grooms were single in Northern and Central California than in Southern California. The per cent single for the counties north of Tehachapi was 84.6 in 1913 and 85.4 in 1912, while for the counties to the south the per cents were only 80.8 and 81.4, respectively.

There is relatively little difference between the per cents for the metropolitan area (84.8 and 86.0) and for the rural counties (84.5 and 84.6) of Northern and Central California. However, there are wide differences in the metropolitan area between the per cents for San Francisco and the other bay counties. The per cent of single grooms in the metropolis proper was 86.8 in 1913 and 88.2 in 1912, these being the maximum per cents among geographic divisions, while for the suburban counties the per cents were, respectively, 82.1 and 83.1, or about the lowest outside Southern California. The per cents single were 81.6 and 82.1 for Los Angeles in 1913 and 1912, but only 79.5 and 80.1, respectively, for the other counties south of Tehachapi.

Examination of Tables 9 and 10, *post*, shows that the individual counties in which at least 90.0 per cent of the grooms were single were (in 1913) Calaveras, Del Norte, Lake, Mariposa, Mono, Nevada, Plumas, San Benito, Sierra, and Tuolumne, and (in 1912) Alpine, Del Norte, Mariposa, Mono, Plumas, Sierra, Siskiyou, and Trinity. On the other hand, those in which only 80.0 per cent or less of the grooms were single were Marin, Orange, Riverside, San Diego, and Trinity in 1913, and Inyo, Lake, Lassen, Orange, San Diego, and Yuba in 1912.

Reference to Table 2, *ante*, shows that the proportion of widowers among the grooms is much greater for Southern California than for Northern or Central California. The per cent widowed for the coun-

It appears from Table 1 that of 31,383 marriages in California in 1913, altogether 22,494 were first marriages for both parties; 3,606 were first marriages for the grooms only; 2,469 were first marriages for the brides only; and 2,814 were second marriages or over for both grooms and brides. Of the 31,276 marriages in 1912, there were 22,811 in which neither party had been married before; 3,422 where only the grooms were single; 2,387 where only the brides were single; and 2,656 where both grooms and brides were widowed or divorced.

Analysis of the per cents for the State is facilitated by a calculation of annual averages for 1909 to 1913, the five-year period just ended, as given in the following tabular statement:

Number in order	Per cent of marriages					
	Annual average: 1909 to 1913	1913	1912	1911	1910	1909
STATE TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
First of both parties.....	72.8	71.7	72.9	73.0	72.5	73.6
First of groom only.....	11.0	11.5	11.0	11.2	11.0	10.5
First of bride only.....	7.8	7.9	7.6	7.7	8.0	8.0
Second or over of both.....	8.4	8.9	8.5	8.1	8.5	7.9

The per cent distribution of marriages by number in order for 1912 alone was about the same as the respective annual average per cents for 1909 to 1913. In 1913, however, the per cent of marriages which were the first for both parties, 71.7, falls much below the average of 72.8 for the five-year period. On the other hand, the per cents of marriages which were the first for the groom or the bride only, and also which were the second or over for both parties, stand somewhat higher for 1913 alone than the corresponding averages for 1909 to 1913.

Reference to Table 1, *ante*, indicates that the per cent of first marriages for both parties was much higher in both 1913 and 1912 for the territory north of Tehachapi, 73.0 and 74.6, respectively, than for Southern California, 69.6 and 70.2. The per cents for Northern California were 73.3 and 76.4, and for Central California were 73.0 and 74.4.

The per cent of first marriages was somewhat greater each year for the metropolitan area, 73.2 and 75.1, than for the rural counties north of Tehachapi, 72.7 and 74.0. Within the metropolitan area, however, there are wide differences between the per cents for San Francisco and for the other bay counties, the per cents for the metropolis proper being no less than 76.1 in 1913 and 78.8 in 1912 (or the highest among geographic divisions), but only 69.6 and 70.2, respectively, for the group of suburban counties (Alameda, Contra Costa, Marin and San Mateo). Similarly, the per cents of first marriages were 70.7 and 71.5 for Los Angeles, but as low as 67.6 and 67.8 for the other counties south of Tehachapi.

Examination of Tables 9 and 10, *post*, shows that the proportion of marriages which were the first for both parties is very high for certain small counties. Thus, all of the 5 marriages in Mariposa in 1913 were first marriages for both parties, while the per cent of first mar-

riages was also very high in 1912 for Sierra (90.9), Sutter (89.3), and Mariposa (87.5).

On the other hand the per cents of first marriages are very low indeed for individual counties adjoining San Francisco and Los Angeles. Thus, for counties adjoining San Francisco the per cents were only 65.9 and 65.5 for San Mateo in 1913 and 1912, and as low as 63.3 and 63.2, respectively, for Marin. Likewise, the per cents of first marriages for Orange County, adjoining Los Angeles, were only 62.9 in 1913 and 63.4 in 1912. There are only a few other counties in the State where in 1913 or 1912 less than 70.0 per cent of the marriages were first marriages for both parties, the additional counties in 1913 being Amador, Calaveras, Kern, Mono, Plumas, Riverside, Sacramento, San Diego, Santa Cruz, Shasta, Sierra, Siskiyou, Sutter, Yolo, and Yuba, and in 1912 Alpine, Del Norte, Inyo, Sacramento, San Bernardino, San Diego, Santa Barbara, and Yuba.

In 1913 there were 3,606 marriages, which were the first for only the grooms, as compared with only 2,469, which were the first for only the brides. Similarly in 1912, the first marriages for only the grooms numbered 3,422 against only 2,387 for the first marriages of the brides alone. The excess of first marriages of grooms over first marriages of brides was 1,137, or 46.1 per cent, in 1913, and 1,035, or 43.4 per cent, in 1910. In other words, the number of single men marrying widowed or divorced women is greater by over two fifths than the number of single women marrying widowed or divorced men. No main or minor geographic division of California shows any departure from this rule, that there are more unions of bachelors with widows than of maids with widowers. In fact, there are exceptions to the rule, and only slight exceptions at that, for only six of the whole fifty-eight counties in either 1913 or 1912, the six for 1913 being Colusa, El Dorado, Humboldt, Imperial, Solano, and Tulare, and the six for 1912 being Lake, Lassen, Modoc, Placer, Sutter, and Tulare. In Trinity and Tuolumne in 1913, and in Calaveras, Colusa, Inyo, and Shasta in 1912 there were exactly the same number of marriages where only the grooms were single as where only the brides were single. But in all the remaining counties of the State the rule holds good that there are more marriages between bachelors and widows than between maidens and widowers.

Further reference to Table 1, *ante*, shows that the per cent of marriages which were the second or over for both grooms and brides (8.9 per cent for the State in 1913 and 8.5 per cent for 1912) is higher for Southern California than for Northern and Central California. The per cents in 1913 and 1912, respectively, were 10.5 and 10.3 for the counties south of Tehachapi as compared with 8.0 and 7.4 for those to the north, being 8.6 and 8.0 for Northern California and 7.9 and 7.3 for Central California. The per cent of marriages where both parties were widowed or divorced was highest of all each year for the counties of Southern California other than Los Angeles, 11.4 in 1913 and 11.0 in 1912 against 10.0 and 9.9, respectively, for Los Angeles alone. In Northern and Central California the per cents for the rural counties were 8.5 and 8.2 in 1913 and 1912 as compared with 7.6 and 6.8, respectively, for the metropolitan area. Within the metropolitan area, moreover, the per cents were no less than 9.0 in 1913 and 8.5 in 1912 for the suburban counties against only 6.5 and

The tabular statement which follows gives a summary of the per cents for the State for the five year period just ended:

Marital condition	Per cent of brides					
	Annual average: 1909 to 1913	1913	1912	1911	1910	1909
STATE TOTAL -----	100.0	100.0	100.0	100.0	100.0	100.0
Single -----	80.6	79.6	80.6	80.7	80.5	81.6
Widowed -----	9.9	10.1	9.6	9.7	10.0	10.0
Divorced -----	9.5	10.3	9.8	9.6	9.5	8.4

The per cent for single brides in 1913 (79.6) falls considerably below the five year average but in 1912 (80.6) was exactly the same as the average. The per cent widowed was somewhat more in 1913 (10.1) while somewhat less in 1912 (9.6) than the average of 9.9 for 1909 to 1913. The per cents for divorced brides, however, in both 1913 and 1912 (10.3 and 9.8, respectively) stand above the annual average of 9.5 for the five year period just ended. It may be added, furthermore, that the per cent divorced among brides has risen steadily ever since 1907, as follows: 1907, 7.4; 1908, 7.7; 1909, 8.4; 1910, 9.5; 1911, 9.6; 1912, 9.8; and 1913, 10.3.

Moreover, from the beginning of registration under the law of 1905, there were more widows than divorcees among brides each year until 1912, when divorcees outnumbered widows by 50 (3,064 against 3,014), divorcees likewise surpassing widows among brides in 1913 by 58 (3,239 against 3,181).

It may be noted that in 1913 the widowed grooms numbered only 2,739 against 3,181 for the brides, and that in 1912 the widowers totaled 2,602 and the widows 3,014. That is, the widows outnumbered the widowers by 442, or 16.1 per cent, in 1913, and by 412, or 15.8 per cent, in 1912. In 1913 the divorced grooms numbered only 2,544 and the brides 3,239, while in 1912, similarly, the divorced men remarrying totaled 2,441 and the women 3,064. In other words, the number of divorced women remarrying exceeded that of divorced men by 695, or 27.3 per cent, in 1913, and by 623, or 25.5 per cent, in 1912.

It appears from Table 3, *ante*, that in 1913 and 1912 relatively more brides were single in the counties north of Tehachapi than in those to the south. The per cent single among brides was 80.4 in 1913 and 81.8 in 1912 for Northern and Central California together against only 78.2 and 78.5 for Southern California. The per cents for the metropolitan area were 80.9 and 82.3 in 1913 and 1912, as compared with 79.7 and 81.2, respectively, for the rural counties north of Tehachapi. The per cent of single brides for San Francisco was 82.8 in 1913 and 85.2 in 1912, these being the maximum per cents among geographic divisions. At the same time, however, the per cent for the other bay counties was merely 78.5 each year, or the lowest outside Southern California. The per cents single were 79.1 and 79.5 for Los Angeles in 1913 and 1912, against only 76.7 each year for the other counties south of Tehachapi.

Examination of Tables 9 and 10, *post*, shows that the individual counties in which at least 90.0 per cent of the brides were single were Colusa, Mariposa, and Tuolumne in 1913, and Sierra and Sutter in

1912. On the other hand, the counties in which only 80.0 per cent or less of the brides were single were as follows: In 1913, Amador, Calaveras, Kern, Lassen, Los Angeles, Madera, Marin, Mendocino, Modoc, Mono, Orange, Plumas, Riverside, Sacramento, San Bernardino, San Diego, San Joaquin, San Mateo, Santa Barbara, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Sutter, Tehama, Trinity, Yolo, and Yuba; and in 1912, Alpine, Butte, Del Norte, El Dorado, Inyo, Lake, Los Angeles, Marin, Merced, Monterey, Napa, Nevada, Orange, Riverside, Sacramento, San Bernardino, San Diego, San Joaquin, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Trinity, Tuolumne, and Yuba.

Reference to Table 3, *ante*, shows that the proportion of widows among brides, as of widowers among grooms, is much higher in Southern California than for Northern or Central California. The per cent of widowed brides for the counties south of Tehachapi was 11.9 in 1913 and 11.6 in 1912 as compared with 9.0 and 8.5, respectively, for the counties to the north, the per cents being 10.1 and 8.5 for Northern California and 8.9 and 8.5 for Central California. The per cents were 11.5 and 11.4 for Los Angeles in 1913 and 1912 against 12.6 and 11.9 for the other counties of Southern California. The per cents for the metropolitan area were 8.4 and 7.8 as compared with 9.7 and 9.4 for the rural counties north of Tehachapi. The per cents for San Francisco were only 7.6 and 6.6 in 1913 and 1912 against 9.5 and 9.3, respectively, for the other bay counties. As with widowers, so with widows, somewhat more remarry in the country districts than in urban centers, and, in the latter, more remarry in the suburbs than in the metropolis proper.

The individual counties (shown in Tables 9 and 10, *post*) in which widows formed at least one tenth (10.0 per cent) of all brides in 1913 were: Amador, Calaveras, El Dorado, Inyo, Kern, Lake, Marin, Mendocino, Modoc, Mono, Napa, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sonoma, Sutter, Tehama, Trinity, Tuolumne, Yolo, and Yuba, in Northern and Central California; and Los Angeles, Orange, Riverside, San Bernardino, and San Diego, in Southern California. In 1912 the counties in which 10.0 per cent or more of the brides were widows were: North of Tehachapi—Amador, Butte, Del Norte, El Dorado, Inyo, Marin, Mendocino, Merced, Monterey, Napa, Nevada, Plumas, Sacramento, San Benito, San Joaquin, Santa Clara, Santa Cruz, Solano, Stanislaus, Trinity, Yolo, and Yuba; and south of Tehachapi—Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Santa Barbara.

Further reference to Table 3, *ante*, shows that the proportion of divorced brides, unlike that of grooms, is slightly less for Southern California than for Northern or Central California, generally speaking. The per cent divorced among brides was 9.9 each year for the counties south of Tehachapi against 10.4 in 1913 and 9.7 in 1912 for those to the north, being 9.8 and 8.5 for Northern California and 10.7 and 9.9 for Central California. The per cents were 9.4 and 9.1 for Los Angeles in 1913 and 1912 as compared with no less than 10.7 and 11.4 for the other counties of Southern California. North of Tehachapi, however, the per cents divorced among brides are practically the same for the metropolitan area as for the rural counties, being 10.7 and 10.6, respectively, in 1913 and, similarly, 9.9 and 9.4 in 1912. Within the metropolitan area, on the contrary, the per cent of divorced brides (as of

grooms) is much less for San Francisco than for the other bay counties, the per cents divorced among brides being only 9.6 and 8.2 for the metropolis proper against as much as 12.0 and 12.2 for the suburban territory. While there is no very marked difference between the metropolitan area and the rural districts in the per cent divorced, whether among grooms or brides, yet there is a sharp contrast between the metropolis proper and the surrounding suburbs in the proportion of divorced persons among those remarrying, since both divorcees and divorced men remarry less in the main city than in the adjacent suburbs.

The individual counties (given in Tables 9 and 10, *post*) in which at least 7.5 per cent of all brides in 1913 were divorced were: Alameda, Amador, Butte, Calaveras, Contra Costa, Del Norte, Kern, Lassen, Madera, Marin, Mendocino, Merced, Monterey, Napa, Placer, Plumas, Sacramento, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba, in Northern and Central California; and Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Santa Barbara, in Southern California. The counties with 7.5 per cent or more divorced brides in 1912 were: North of Tehachapi—Alameda, Alpine, Calaveras, Colusa, Contra Costa, Del Norte, Inyo, Kern, Kings, Lake, Lassen, Madera, Marin, Mariposa, Merced, Mono, Napa, Nevada, Sacramento, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Tehama, Trinity, Tuolumne, and Yuba; and south of Tehachapi—the whole eight counties, viz.: Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, and Ventura. The per cent of divorced brides was especially high each year for Marin (16.6 in 1913 and 16.7 in 1912) and for San Mateo (17.6 and 17.7), adjacent to San Francisco, as well as for Orange (13.3 and 15.0), adjacent to Los Angeles.

In general, the proportion widowed and divorced, both among grooms and brides, is notably high for counties like Marin and San Mateo in the north and Orange in the south, adjacent to the great cities of San Francisco and Los Angeles. Analysis of marriage rates showed that there is a tendency on the part of many couples belonging to these cities to go to the suburbs to be married. This preference for a suburban town rather than the city proper as a place of marriage is most marked on the part of widowed and divorced persons marrying again, especially on the part of the divorced. The secretive divorcee even more than the romantic maiden enjoys the seclusion of a suburban Gretna Green.

NATIVITY OF CALIFORNIA BRIDES.

Race and Nativity.—The table below gives for California in 1913 and 1912 a classification of brides by race, nativity, and marital condition, as well as the per cent distribution by marital condition. The table also shows, for both years, the racial distinction of the non-Caucasian brides.

TABLE 4.—Brides Classified by Race, Nativity, and Marital Condition, with Per Cent Distribution by Marital Condition, for California: 1913 and 1912.

Race of nativity	Brides				Per cent		
	Total	Single	Wid-owed	Di-voiced	Single	Wid-owed	Di-voiced
1913							
THE STATE -----	31,383	24,963	3,181	3,239	79.6	10.1	10.3
White -----	30,089	23,853	3,070	3,166	79.3	10.2	10.5
Born in California -----	10,804	9,209	638	967	85.2	5.9	8.9
Born in other states -----	13,271	9,856	1,634	1,781	74.3	12.3	13.4
Foreign born -----	6,014	4,788	798	428	79.6	13.3	7.1
Non-Caucasian -----	1,294	1,110	111	78	85.8	8.6	5.6
Negro -----	464	322	83	59	69.4	17.9	12.7
Indian -----	70	52	11	7	74.3	15.7	10.0
Chinese -----	42	35	6	1	83.3	14.3	2.4
Japanese -----	718	701	11	6	97.7	1.5	0.8
1912							
THE STATE -----	31,276	25,198	3,014	3,064	80.6	9.6	9.8
White -----	29,832	23,981	2,916	2,985	80.2	9.8	10.0
Born in California -----	11,208	9,617	852	934	85.9	5.8	8.3
Born in other states -----	12,713	9,529	1,514	1,670	75.0	11.9	13.1
Foreign born -----	5,916	4,785	750	881	80.9	12.7	6.4
Non-Caucasian -----	1,444	1,267	98	79	87.7	6.8	5.5
Negro -----	433	283	83	67	65.3	19.2	15.5
Indian -----	67	57	5	2	85.1	7.5	7.4
Chinese -----	38	34	2	2	89.5	5.3	5.2
Japanese -----	906	893	8	5	98.6	0.9	0.5

Considering first the non-Caucasian brides, one will observe that among them the per cents single were 85.8 in 1913 and 87.7 in 1912; the widowed 8.6 and 6.8; and the divorced 5.6 and 5.5. The per cents single were 97.7 and 98.6 among Japanese brides; 83.3 and 89.5 among the Chinese; 74.3 and 85.1 among Indians; and only 69.4 and 65.3 among negro brides. The per cents widowed were 17.9 and 19.2 for negro brides but only 15.7 and 7.5 for Indians and 14.3 and 5.3 for Chinese, being merely 1.5 and 0.9 for Japanese. Similarly, the per cents divorced were 12.7 and 15.5 for negro brides but only 10.0 and 7.4 for Indians and 2.4 and 5.2 for Chinese, being merely 0.8 and 0.5 for Japanese brides.

The per cents for non-Caucasians differ greatly from the per cents for white brides, the proportion of single brides among the non-Caucasians being relatively large on account of the preponderance of single brides among the Japanese, now the most numerous non-Caucasian element in the population of California. Incidentally, it may be noted that over nine tenths of all marriages of Japanese in California take place at San Francisco, the per cent of all Japanese marriages in the State occurring at this port being 93.3 for 1913 and 95.7 for 1912.

It seems that expectant Japanese bridegrooms from various points in the interior come to San Francisco to await the arrival of trans-Pacific steamships bringing groups of "picture brides" direct from the Flowery Kingdom.

However, the 1,294 non-Caucasian brides in 1913 form merely 4.1 per cent of the State total, while the 1,444 in 1912 form only 4.6 per cent. The Japanese brides in 1913 and 1912, numbered 718 and 906, representing per cents of 2.3 and 2.9 of State aggregates; the negro brides numbered 464 and 433 (or 1.5 and 1.4 per cent); the Indian brides 70 and 67 (or 0.2 per cent each year); and the Chinese brides 42 and 38 (or 0.1 per cent each year). On account of the relatively small (though increasing) proportion of non-Caucasians among California brides, and also because of the wide divergence between the non-Caucasian races in this State (with Japanese and Chinese from the Orient out-numbering somewhat American born negroes and Indians), attention will be directed in the following discussion only to the facts for the whites.

Of the 30,089 white brides in 1913 and the 29,832 in 1912, the single were 23,853 and 23,931, respectively; the widowed 3,070 and 2,916; and the divorced 3,166 and 2,985.

The white brides born in California numbered 10,804 and 11,203 in 1913 and 1912, and among them there were, respectively, 9,209 and 9,617 single; 638 and 652 widowed; and 957 and 934 divorced.

The brides born in other states totaled 13,271 and 12,713 in 1913 and 1912, of whom the single were, respectively, 9,856 and 9,529; the widowed 1,634 and 1,514; and the divorced 1,781 and 1,670.

The foreign born white brides were 6,014 in 1913 and 5,916 in 1912, among whom there were, respectively, 4,788 and 4,785 single; 798 and 750 widowed; and 428 and 381 divorced.

Analysis of the per cents in Table 4 for various classes of white brides is aided by the presentation in the following tabular statement of the annual averages for the five year period just ended:

Nativity	Annual average per cent of white brides: 1909 to 1913			
	Total	Single	Widowed	Divorced
STATE TOTAL.....	100.0	80.4	10.0	9.6
Born in California.....	100.0	86.3	5.7	8.0
Born in other states.....	100.0	75.1	12.3	12.6
Foreign born.....	100.0	80.5	13.0	6.5

The per cents for single white brides in 1913 especially, and for 1912 in less degree, 79.3 and 80.2, respectively, fall below the annual average of 80.4 for 1909 to 1913. The per cents for widowed brides, 10.2 and 9.8, are not far from the same as the average of 10.0, while the per cents for the divorced, 10.5 and 10.0, stand somewhat above the average of 9.6 for the five year period. It may be added that the per cent divorced among all white brides rose steadily throughout the past seven years, as follows: 7.4 (1907), 7.7, 8.4, 9.6, 9.7, 10.0, and 10.5 (1913).

Among white brides born in California, the per cents single in 1913 and 1912, respectively, 85.2 and 85.9, are considerably below the average of 86.3; the per cents widowed, 5.9 and 5.8, are about the same as the

average of 5.7; and the per cents divorced, 8.9 and 8.3, are somewhat above the average of 8.0. The per cent divorced among native California brides increased successively through the whole seven year period thus: 6.0 (1907), 6.3, 7.0, 7.7, 8.0, 8.3, and 8.9 (1913).

Among white brides born in other states the per cents single in the last two years, 74.3 and 75.0, are somewhat below the average of 75.1 for 1909 to 1913; the per cents widowed, 12.3 and 11.9, are about the same as the five year average of 12.3; and the per cents divorced, 13.4 and 13.1, are much above the average of 12.6. For brides born in other states the per cents divorced were successively 10.0, 10.4, 11.1, 12.8, 12.8 again, 13.1, and 13.4 in 1907 to 1913, increasing generally through the seven years.

Among foreign born white brides, the per cents single in 1913 and 1912, 79.6 and 80.9, were one below and one above the annual average of 80.5; the per cents widowed, 13.3 and 12.7, were one above and one below the average of 13.0; and the per cents divorced, 7.1 and 6.4, were likewise one above and one below the average of 6.5. The per cents divorced among foreign born brides were successively 4.8, 5.3, 6.0, 6.6, 6.3, 6.4, and 7.1 in 1907 to 1913, having fluctuated somewhat through the seven years. Moreover, the per cent divorced among foreign born white brides, 6.5 as an average for the last five year period, is much less than among brides born in California, 8.0, or than among those born in other states, 12.6.

Status of White Brides.—Table 5 below, shows, by numbers and per cents, the civil status or marital condition of the white brides at the time of marriage—whether single, widowed, or divorced—for the several geographic divisions of the State in both 1913 and 1912.

TABLE 5.—White Brides Classified by Marital Condition, with Per Cents, for Geographic Divisions: 1913 and 1912.

Geographic division	White brides				Per cent		
	Total	Single	Wid-owed	Di-voiced	Single	Wid-owed	Di-voiced
1913							
THE STATE	30,089	23,863	3,070	3,166	79.3	10.2	10.5
<i>Northern California</i>	2,244	1,800	224	220	80.2	10.0	9.8
Coast counties	1,113	904	108	101	81.2	9.7	9.1
Interior counties	1,131	896	116	119	79.2	10.3	10.5
<i>Central California</i>	16,049	12,801	1,465	1,783	79.8	9.1	11.1
San Francisco	5,215	4,217	434	564	80.9	8.3	10.8
Other bay counties	4,490	3,528	428	534	78.6	9.5	11.9
Coast counties	1,666	1,338	149	179	80.3	8.9	10.8
Interior counties	4,678	3,718	454	506	79.5	9.7	10.8
<i>Southern California</i>	11,796	9,252	1,381	1,163	78.4	11.7	9.9
Los Angeles	7,352	5,837	826	689	79.4	11.2	9.4
Other counties	4,444	3,415	555	474	78.8	12.5	10.7
<i>Northern and Central California</i>	18,293	14,601	1,689	2,003	79.8	9.2	11.0
Coast counties	12,484	9,967	1,119	1,378	80.0	9.0	11.0
Interior counties	5,809	4,614	570	625	79.4	9.8	10.8
Metropolitan area	9,705	7,745	862	1,098	79.8	8.9	11.3
Rural counties	8,588	6,856	827	905	79.8	9.6	10.6
1912							
THE STATE	29,832	23,931	2,916	2,985	80.2	9.8	10.0
<i>Northern California</i>	2,277	1,888	194	195	82.9	8.5	8.6
Coast counties	1,153	960	107	96	83.3	9.3	7.4
Interior counties	1,124	928	87	109	82.6	7.7	9.7
<i>Central California</i>	16,215	13,098	1,435	1,682	80.8	8.8	10.4
San Francisco	5,195	4,309	390	496	82.9	7.5	9.6
Other bay counties	4,633	3,640	429	564	78.6	9.2	12.2
Coast counties	1,721	1,371	180	170	79.7	10.4	9.9
Interior counties	4,666	3,778	436	452	81.0	9.3	9.7
<i>Southern California</i>	11,340	8,945	1,287	1,108	78.9	11.3	9.8
Los Angeles	7,249	5,797	805	647	80.0	11.1	8.9
Other counties	4,091	3,148	482	461	76.9	11.8	11.3
<i>Northern and Central California</i>	18,492	14,986	1,629	1,877	81.0	8.8	10.2
Coast counties	12,702	10,280	1,106	1,316	80.9	8.7	10.4
Interior counties	5,790	4,706	523	561	81.3	9.0	9.7
Metropolitan area	9,823	7,949	819	1,060	80.9	8.3	10.8
Rural counties	8,664	7,037	810	817	81.2	9.4	9.4

This table shows that the per cent single among white brides was higher each year for the counties north of Tehachapi than for those to the south. The per cents single in 1913 and 1912, respectively, were 79.8 and 81.0 for the counties north of Tehachapi against 78.4 and 78.9 for those to the south, being 80.2 and 82.9 for Northern California alone and 79.8 and 80.8 for Central California alone. The per cent single

in 1913 was exactly the same for the metropolitan area as for the rural counties north of Tehachapi, but in 1912 was 80.9 for the former against 81.2 for the latter. The per cent of single white brides was relatively high for San Francisco in both 1913 and 1912, 80.9 and 82.9, respectively, while comparatively low in both instances for the group of other bay counties, 78.6 each year. The per cents single were 79.4 and 80.0 for Los Angeles, as compared with 76.8 and 76.9 for the other counties south of Tehachapi.

The proportion of widows among white brides is higher for Southern California than for Northern or Central California. The per cents widowed for the counties south of Tehachapi were 11.7 and 11.3 in 1913 and 1912, respectively, against 9.2 and 8.8 for those to the north, being 10.0 and 8.5 for Northern California and 9.1 and 8.8 for Central California. The per cents for Los Angeles were 11.2 and 11.1, and for the rest of Southern California were 12.5 and 11.8 in 1913 and 1912, respectively. The per cents were 8.9 and 8.3 for the metropolitan area as compared with 9.6 and 9.4 for the rural counties of Northern and Central California. For San Francisco the per cents widowed were only 8.3 and 7.5, or the minimum each year; but for the other bay counties the per cents were considerably higher, 9.5 and 9.2. Of white widows it may therefore be said, as of widowers and widows of all races taken together, that more remarry in rural districts than in urban centers, but that in the metropolitan area more remarry in the suburbs than in the main city.

The proportion of divorcees among white brides, unlike that of widows, is somewhat less for the counties south of Tehachapi than for those to the north. The per cents divorced in 1913 and 1912, respectively, were 9.9 and 9.8 for Southern California against 11.0 and 10.2 for Northern and Central California together, being 9.8 and 8.6 for Northern California and 11.1 and 10.4 for Central California. The per cents were 9.4 and 8.9 for Los Angeles in 1913 and 1912 against no less than 10.7 and 11.3 for the other counties of Southern California. North of Tehachapi, on the other hand, the proportion of divorcees is somewhat greater for the metropolitan area than for the rural counties, the per cents for the former being 11.3 and 10.8 against 10.6 and 9.4 for the latter. Within the urban district, however, the proportion of divorcees among white brides is much less for San Francisco than for the other bay counties, the per cents being only 10.8 and 9.6 for the metropolis proper, but as much as 11.9 and 12.2 for the surrounding suburbs. Divorcees, unlike widows, remarry more in the metropolitan area than in the rural counties, while both divorcees and widows, like divorced men and widowers, remarry more in the suburbs of a great city than within the metropolis itself.

Status of White Brides (by Nativity).—The following table shows, for the several geographic divisions in 1913 and 1912, the civil status or marital condition—as single, widowed, or divorced—of the white brides classified by nativity—as born in California, born in other states, or foreign born. For convenience in presentation, the absolute numbers are omitted and only the per cent distributions are given here. The absolute numbers may be found, however, in Tables 11 and 12, *post*.

TABLE 6.—Per Cent Distribution, by Marital Condition, of White Brides Classified by Nativity, for Geographic Divisions: 1913 and 1912.

Geographic division	White brides								
	Per cent single among those—			Per cent widowed among those—			Per cent divorced among those—		
	Born in California	Born in other states	Foreign born	Born in California	Born in other states	Foreign born	Born in California	Born in other states	Foreign born
1913									
THE STATE	85.2	74.3	79.6	5.9	12.3	13.8	8.9	13.4	7.1
<i>Northern California</i>	88.2	67.1	74.3	5.3	16.0	16.7	6.5	16.9	9.0
Coast counties	88.1	66.8	76.9	5.7	14.5	16.0	6.2	13.7	7.1
Interior counties	88.3	67.4	68.4	4.9	16.8	13.4	6.8	15.8	13.2
<i>Central California</i>	84.4	72.4	80.8	6.0	11.8	11.7	9.6	15.8	7.5
San Francisco	84.4	71.5	83.7	5.5	10.9	10.1	10.1	17.6	6.2
Other bay counties	84.8	71.8	74.6	6.2	11.4	14.5	9.0	16.8	10.9
Coast counties	86.3	71.1	79.0	4.8	13.3	13.1	8.9	15.6	7.9
Interior counties	83.3	73.9	82.3	6.6	12.5	11.4	10.1	13.6	6.3
<i>Southern California</i>	86.1	76.2	78.4	6.2	12.3	15.5	7.7	11.5	6.1
Los Angeles	86.9	77.4	79.5	5.0	11.8	14.8	8.1	10.8	5.7
Other counties	85.1	74.0	76.3	7.6	13.2	16.8	7.3	12.8	6.9
<i>Northern and Central California</i>	85.0	71.8	80.2	5.8	12.3	12.1	9.2	15.9	7.7
Coast counties	85.2	71.2	80.1	5.7	11.7	12.1	9.1	17.1	7.8
Interior counties	84.5	72.7	80.7	6.2	13.3	12.2	9.3	14.0	7.1
Metropolitan area	84.6	71.7	80.5	5.8	11.1	11.6	9.6	17.2	7.9
Rural counties	85.4	72.0	79.8	5.8	13.4	13.0	8.8	14.6	7.2
1912									
THE STATE	85.9	75.0	80.9	5.8	11.9	12.7	8.3	13.1	6.4
<i>Northern California</i>	88.4	72.4	82.6	5.0	13.7	12.4	6.6	13.9	5.0
Coast counties	88.6	69.3	85.7	5.2	17.8	10.1	6.2	12.9	4.2
Interior counties	88.2	74.7	74.4	4.7	10.7	13.3	7.1	14.6	7.3
<i>Central California</i>	84.9	73.5	81.8	6.0	11.2	11.6	9.1	15.3	6.6
San Francisco	85.9	73.5	86.1	5.5	9.7	8.5	8.6	16.8	5.4
Other bay counties	83.5	72.2	75.6	5.7	11.1	15.4	10.8	16.7	9.0
Coast counties	85.1	70.4	77.2	6.6	14.8	15.4	8.3	14.8	7.4
Interior counties	85.3	75.3	82.0	6.7	11.4	12.0	8.0	13.3	6.0
<i>Southern California</i>	87.7	76.2	78.9	5.6	12.2	14.8	6.7	11.6	6.3
Los Angeles	88.1	77.9	79.4	5.0	11.7	14.7	6.9	10.4	5.9
Other counties	87.3	73.0	77.7	6.4	13.1	14.9	6.3	13.9	7.4
<i>Northern and Central California</i>	85.4	73.4	81.8	5.9	11.5	11.7	8.7	15.1	6.5
Coast counties	85.1	72.2	82.0	5.7	11.7	11.4	9.2	16.1	6.6
Interior counties	86.0	75.2	81.2	6.2	11.3	12.6	7.8	13.5	6.2
Metropolitan area	84.6	72.9	82.3	5.6	10.4	11.0	9.8	16.7	6.7
Rural counties	86.1	73.9	81.0	6.2	12.5	12.9	7.7	13.6	6.1

Table 6 shows that the per cents single were no less than 85.2 in 1913 and 85.9 in 1912 among white brides born in California as compared with 79.6 and 80.9 among foreign born white brides and only 74.3 and 75.0 among those born in other states, the average per cents single for 1909 to 1913 being 86.3 for California born brides, 80.5 for the foreign, and merely 75.1 for brides born in other states. For every part of the State in both 1913 and 1912, except San Francisco in 1912 with the foreign born excelling, the per cent single is highest of all among brides born in California. As a rule, too, the per cent single is next highest among foreign born brides and lowest of all among those born elsewhere in the United States than here, a slight exception appearing for only one minor geographic division in 1912 alone.

In both 1913 and 1912 the per cent single was much higher for each class of brides in Los Angeles than for those in the other counties of Southern California. However, for the metropolitan area, as compared with the rural counties north of Tehachapi, the per cent single was notably higher each year for the former than for the latter only in the case of foreign born brides. Yet for San Francisco, in contrast with its suburbs, the per cent single was higher for the main city than for the suburban counties, not only among brides born abroad each year, but also among those born in California and in other states as well, in 1912, the per cents for Californian and other American brides in 1913 being about the same for San Francisco as for the other bay counties.

The per cents widowed were no less than 13.3 and 12.7 in 1913 and 1912 among foreign born brides and 12.3 and 11.9 among those born in other states against merely 5.9 and 5.8 among white brides born in California, the average per cents for the last five years being 13.0 for the foreign born and 12.3 for other Americans but merely 5.7 for native Californians. In general, the per cent widowed in 1913 and 1912 is highest of all among foreign born white brides, slight exceptions appearing for only San Francisco and one or two other minor geographic divisions in either year. Without exception, the per cent widowed is decidedly lowest among white brides born in the Golden State.

Generally speaking, the per cent widowed was less among each class by nativity for Los Angeles than for the other counties south of Tehachapi; for the metropolitan area than for the rural counties north of Tehachapi; and for San Francisco than for the other bay counties. No marked exceptions appear in either 1913 or 1912 to the general rule that in each element of the population more widows remarry in rural districts than in urban centers, and in the latter more remarry in the suburbs than in the main city.

The per cents divorced were as great as 13.4 and 13.1 in 1913 and 1912 among white brides born in other states, but only 8.9 and 8.3 among those born in California and 7.1 and 6.4 among the foreign born, the average per cents for 1909 to 1913 being 12.6 for other Americans but merely 8.0 for Californians and 6.5 for the foreign born. Everywhere in California in both 1913 and 1912, generally speaking, the per cent divorced was greatest among brides born in other states, next among those born in this State, and lowest of all among the foreign born. Slight exceptions to the rule, due to unusually high per cents divorced among foreign born brides, appear in the interior counties of Northern California both years as well as in one or two other minor geographic divisions each year.

The per cent divorced was much less in both 1913 and 1912 among all classes of brides except native Californians in Los Angeles than in the other counties of Southern California, and was likewise generally less for each element except other Americans in San Francisco than in the adjoining bay counties. However, the per cents divorced were greater each year for the metropolitan area than for the rural counties north of Tehachapi for each class of brides without any exception whatever. The rule that widows remarry more in rural districts than in urban centers has been found to hold good for each class of white brides, whether born in California, in other states, or in foreign countries. Similarly, the rule that divorcees, unlike widows, remarry more in the metropolitan area than in the rural counties holds true for each of the three elements of the population. Divorcees and widows are alike, however, in that for substantially each element of the population—Californian, other American, or foreign—many more remarry in the suburban territory than within the metropolis proper.

Nativity of White Brides.—The following table shows, by numbers and per cents, the nativity of white brides—as born in California, born in other states, or foreign born—for the several geographic divisions in 1913 and 1912. Corresponding figures, with others, may be found for individual counties, arranged alphabetically, in Table 15, *post*.

TABLE 7.—White Brides Classified by Nativity, with Per Cents, for Geographic Divisions: 1913 and 1912.

Geographic division	White brides				Per cent		
	Total	Born in California	Born in other states	Foreign born	Born in California	Born in other states	Foreign born
1913							
THE STATE	30,089	10,804	13,271	6,014	35.9	44.1	20.0
<i>Northern California</i>	2,244	1,282	639	323	57.1	28.5	14.4
Coast counties	1,113	647	241	225	58.1	21.7	20.2
Interior counties	1,131	635	398	98	56.1	35.2	8.7
<i>Central California</i>	16,049	7,278	5,118	3,653	45.3	31.9	22.8
San Francisco	5,215	2,214	1,355	1,646	42.4	26.0	31.6
Other bay counties	4,490	2,152	1,431	907	47.9	31.9	20.2
Coast counties	1,666	848	513	305	50.9	30.3	18.3
Interior counties	4,678	2,064	1,819	795	44.1	38.9	17.0
<i>Southern California</i>	11,796	2,244	7,514	2,088	19.0	63.7	17.3
Los Angeles	7,352	1,240	4,753	1,359	16.9	64.6	18.5
Other counties	4,444	1,004	2,761	679	22.6	62.1	15.3
<i>Northern and Central California</i>	18,293	8,580	5,756	3,976	46.8	31.5	21.7
Coast counties	12,484	5,861	3,540	3,083	46.9	28.4	24.7
Interior counties	5,809	2,699	2,217	893	46.4	38.2	15.4
Metropolitan area	9,705	4,366	2,786	2,553	45.0	28.7	26.3
Rural counties	8,588	4,194	2,971	1,423	48.8	34.6	16.6
1912							
THE STATE	29,832	11,203	12,713	5,916	37.6	42.6	19.8
<i>Northern California</i>	2,277	1,306	670	299	57.5	29.4	13.1
Coast counties	1,153	649	287	217	56.3	24.9	18.8
Interior counties	1,124	656	383	82	58.6	34.1	7.3
<i>Central California</i>	16,215	7,669	4,840	3,706	47.3	29.8	22.9
San Francisco	5,195	2,268	1,254	1,673	43.7	24.1	32.2
Other bay counties	4,633	2,327	1,302	944	50.2	29.4	20.4
Coast counties	1,721	937	460	324	54.5	26.7	18.8
Interior counties	4,666	2,137	1,764	765	45.8	37.8	16.4
<i>Southern California</i>	11,340	2,226	7,203	1,911	19.6	63.5	16.9
Los Angeles	7,249	1,281	4,626	1,342	17.7	63.8	18.5
Other counties	4,091	945	2,577	569	23.1	63.0	13.9
<i>Northern and Central California</i>	18,492	8,977	5,510	4,005	48.5	29.8	21.7
Coast counties	12,702	6,181	3,363	3,158	48.6	26.5	24.9
Interior counties	5,790	2,796	2,147	847	48.3	37.1	14.6
Metropolitan area	9,828	4,595	2,616	2,617	46.8	26.6	26.6
Rural counties	8,664	4,382	2,894	1,388	50.6	33.4	16.0

It appears from this table that of 30,089 white brides in 1913 and 29,832 in 1912, those born in California were 10,804 and 11,203; those born in other states were 13,271 and 12,713; and the foreign born were 6,014 and 5,916. The per cents born in California were, respectively, 35.9 and 37.6; in other states, 44.1 and 42.6; and abroad, 20.0 and 19.8. It may be added that for 1909 to 1913 the annual average per cents were as follows: California, 38.4; other states, 42.1; and foreign born, 19.5.

The proportion of native daughters among the brides is very high indeed for Northern as well as Central California, but very low indeed for Southern California. The per cents born in California in 1913 and 1912 were 57.1 and 57.5 for Northern California and 45.3 and 47.3 for Central California, or 46.8 and 48.5 for both together, against as little as 19.0 and 19.6 for Southern California. The per cents were only 16.9 and 17.7 for Los Angeles and 22.6 and 23.1 for the other counties south of Tehachapi. North of Tehachapi, likewise, the per cents were less for the metropolitan area (45.0 and 46.8) than for the rural counties (48.8 and 50.6), and also less for San Francisco (42.4 and 43.7) than for the other bay counties (47.9 and 50.2).

The proportion of white brides born elsewhere in the United States than California is very high indeed for the counties south of Tehachapi, but is quite low for those to the north. The per cent of brides born in other states was 63.7 in 1913 and 63.5 in 1912 for Southern California, being no less than 64.6 and 63.8 for Los Angeles and 62.1 and 63.0 for the other counties. On the other hand, the corresponding per cents for the counties north of Tehachapi were only 31.5 and 29.8, being 31.9 and 29.8 for Central California and 28.5 and 29.4 for Northern California. The per cents born in other states were 28.7 and 26.6 for the metropolitan area as compared with 34.6 and 33.4 for the rural counties. For San Francisco the per cents were only 26.0 and 24.1 against 31.9 and 29.4 for the other bay counties.

The proportion of foreign born brides is notably high only for Central California, especially in San Francisco and its suburbs. The per cents foreign born among white brides in 1913 and 1912, respectively, were 22.8 and 22.9 for Central California as compared with only 17.3 and 16.9 for Southern California and 14.4 and 13.1 for Northern California. The per cent for the counties north of Tehachapi was 21.7 each year, being no less than 26.3 in 1913 and 26.6 in 1912 for the metropolitan area, but merely 16.6 and 16.0 for the rural counties. The per cents foreign born were as great as 31.6 and 32.2 for San Francisco as compared with 20.2 and 20.4 for the other counties on the bay. Similarly, the per cents were greater for Los Angeles (18.5 each year) than for the other counties south of Tehachapi (15.3 in 1913 and 13.9 in 1912).

Inspection of Table 15, *post*, shows that one half or more of the white brides in both 1913 and 1912 were native daughters, the per cent being far above 50.0 in most cases, in the following thirty counties: Amador, Butte, Calaveras, Colusa, El Dorado, Humboldt, Lake, Lassen, Marin, Mariposa, Mendocino, Modoc, Mono, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, San Luis Obispo, Shasta,

Solano, Sonoma, Sutter, Trinity, Tuolumne, Yolo, and Yuba. The per cent was also over 50.0 for Glenn and Sierra in 1913 alone, as well as for Alpine, Inyo, Madera, San Mateo, Santa Clara, Santa Cruz, and Tehama in 1912 alone.

In contrast with the long list of counties, all north of Tehachapi, with half the brides born in California, the counties with at least this proportion of white brides born in other states include only Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, and San Diego for both 1913 and 1912, as well as Inyo, Mono, and Tulare in 1913 and Del Norte (by chance) in 1912, these few counties being mainly in or near Southern California.

Moreover, at least one fourth (25.0 per cent) of the white brides were foreign born in both 1913 and 1912 only in Contra Costa and Kings besides San Francisco, with the highest per cents foreign born each year, though at least 25.0 per cent of the brides were born abroad also in Amador and Humboldt in 1912 alone.

Nativity of White Brides (by Status).—Table 8, below, shows for the several geographic divisions in 1911 and 1910, the nativity (as born in California, born in other states, or foreign born) of white brides classified by civil status or marital condition—as single, widowed, or divorced. For convenience in presentation, only the per cent distributions are given here, though the absolute numbers appear in Tables 13 and 14, *post*.

TABLE 8.—Per Cent Distribution, by Nativity, of White Brides Classified by Marital Condition, for Geographic Divisions: 1913 and 1912.

Geographic division	White brides								
	Per cent born in California among the—			Per cent born in other states among the—			Per cent foreign born among the—		
	Single	Wid-owed	Di-voiced	Single	Wid-owed	Di-voiced	Single	Wid-owed	Di-voiced
1913									
THE STATE.....	38.6	20.8	30.2	41.3	53.2	56.3	20.1	26.0	13.5
<i>Northern California</i>	62.8	30.4	37.7	23.9	45.5	49.1	18.3	24.1	13.2
Coast counties.....	63.1	34.3	39.6	17.8	32.4	44.6	19.1	33.3	15.8
Interior counties.....	62.6	26.7	36.1	29.9	57.8	53.0	7.5	15.5	10.9
<i>Central California</i>	48.0	29.5	39.3	29.0	41.3	45.3	23.0	29.2	15.4
San Francisco.....	44.3	27.9	39.5	23.0	33.9	42.4	32.7	38.2	18.1
Other bay counties.....	51.7	31.3	36.3	29.1	38.1	45.1	19.2	30.6	16.6
Coast counties.....	54.7	27.5	41.9	27.3	45.6	44.7	18.0	26.9	13.4
Interior counties.....	46.2	30.0	41.3	36.2	50.0	48.8	17.6	20.0	9.9
<i>Southern California</i>	20.9	10.0	14.9	61.8	67.1	74.6	17.3	22.9	10.7
Los Angeles.....	18.5	7.5	14.5	63.0	68.0	74.3	18.5	24.5	11.2
Other counties.....	25.0	13.7	15.4	59.8	65.8	74.7	15.2	20.5	9.9
<i>Northern and Central California</i>	49.8	29.6	39.1	28.3	41.9	45.7	21.9	28.5	15.2
Coast counties.....	50.0	29.8	38.6	25.3	36.9	43.9	24.7	33.3	17.5
Interior counties.....	49.4	29.3	40.3	35.0	51.6	49.6	15.6	19.1	10.1
Metropolitan area.....	47.7	29.6	38.0	25.8	36.0	43.7	26.5	34.4	18.3
Rural counties.....	52.2	29.6	40.5	31.2	48.0	48.1	16.6	22.4	11.4
1912									
THE STATE.....	40.2	22.4	31.3	39.8	51.9	55.9	20.0	25.7	12.8
<i>Northern California</i>	61.2	33.5	44.6	25.7	47.4	47.7	18.1	19.1	7.7
Coast counties.....	59.9	31.8	46.5	20.7	47.7	43.0	19.4	20.5	10.5
Interior counties.....	62.6	35.6	43.1	30.8	47.1	51.4	6.6	17.3	5.5
<i>Central California</i>	49.7	32.3	41.5	27.2	37.8	43.9	23.1	29.9	14.6
San Francisco.....	45.2	32.0	39.5	21.4	31.3	42.3	33.4	36.7	18.2
Other bay counties.....	53.4	31.0	44.7	27.0	35.2	40.2	19.6	33.8	15.1
Coast counties.....	58.1	34.4	45.9	23.6	37.8	40.0	18.3	27.8	14.1
Interior counties.....	48.2	32.8	38.0	35.2	46.1	51.8	16.6	21.1	10.2
<i>Southern California</i>	21.8	9.6	13.5	61.3	68.4	75.6	16.0	22.0	10.9
Los Angeles.....	19.4	7.9	13.8	62.2	67.5	74.0	18.4	24.6	12.2
Other counties.....	26.2	12.5	13.0	59.8	69.9	77.9	14.0	17.6	9.1
<i>Northern and Central California</i>	51.1	32.4	41.8	27.0	38.9	44.3	21.9	28.7	13.9
Coast Counties.....	51.2	32.0	43.0	23.6	35.4	41.2	25.2	36.0	15.8
Interior counties.....	51.1	33.3	39.0	34.3	46.3	51.7	14.6	20.4	9.3
Metropolitan area.....	48.9	31.5	42.3	24.0	33.3	41.2	27.1	35.2	16.5
Rural counties.....	53.6	33.3	41.3	30.4	44.6	48.3	16.0	22.1	10.4

Analysis of the per cents for the State in Table 8, as well as for Table 7, preceding it, is facilitated by the annual averages for 1909 to 1913 presented in the following tabular statement:

Marital condition	Annual average per cent of white brides: 1909 to 1913			
	Total	Born in California	Born in other states	Foreign born
STATE TOTAL.....	100.0	38.4	42.1	19.5
Single.....	100.0	41.2	39.3	19.5
Widowed.....	100.0	22.4	52.1	25.5
Divorced.....	100.0	31.7	55.2	13.1

It appears from Table 8 that in 1913 and 1912, respectively, the per cents born in California among the single brides were 38.6 and 40.2 against the average of 41.2 shown in the tabular statement; among the divorced were 30.2 and 31.3 against the average of 31.7; and among the widowed were 20.8 and 22.4 against the average of 22.4. In all parts of the State both years the native daughters formed the bulk of the single brides and a large proportion of the divorced, but a small proportion of the widowed brides.

The per cents born in the Golden State among the single, widowed, and divorced brides were very much less for Southern California each year than for Northern or Central California. Generally speaking, the per cents born in California were also less for Los Angeles in all cases than for the other counties south of Tehachapi, the only exception being for divorced brides in 1912. With the same exception, the per cents born in this State were likewise less for the metropolitan area than for the rural counties north of Tehachapi. Except for divorced brides in 1913 and the widowed in 1912, each only slightly, the rule is also that within the metropolitan area the proportion of native daughters among each class of brides is less for the metropolis proper than for the surrounding suburbs.

In 1913 and 1912, respectively, the per cents born in other states than California among the divorced were 56.3 and 55.9 against the average for 1909 to 1913 of 55.2; among the widowed were 53.2 and 51.9 against the average of 52.1; and among the single were only 41.3 and 39.8 against the average of 39.3. Except for three minor geographic divisions in 1913 and one in 1912, a larger proportion each year of the divorcees than of the widows remarrying were born elsewhere in the United States than California. In Los Angeles the per cents born in other states were no less than 74.3 and 74.0 among the divorced brides in 1913 and 1912, and 68.0 and 67.5 among the widowed; for the other counties south of Tehachapi the per cents for divorcees were as great as 74.7 and 77.9, and for widows were 65.8 and 69.9.

The per cents born in other states among single, widowed, and divorced brides were much greater each year for Southern California than for Northern or Central California. North of Tehachapi the per cents born in other states were less among brides of each class in the

metropolitan area than in the rural counties, and were also less in San Francisco than in the other bay counties in all cases except the divorced for 1912 alone. The per cents born elsewhere in the United States were generally greater for Los Angeles, however, than for the rest of Southern California, especially in 1913.

The per cents foreign born in 1913 and 1912, respectively, among the widowed were 26.0 and 25.7 as compared with the average for the last five years of 25.5; among the single were 20.1 and 20.0 as compared with the average of 19.5; and among the divorced were only 13.5 and 12.8 as compared with the average of 13.1. Except for two minor geographic divisions in 1913 alone, the per cent of foreign born brides was highest in every instance each year among the widowed, next highest among the single, and lowest of all among the divorced.

The per cents foreign born were higher for San Francisco than for the other bay counties in all cases except the divorced for 1913 alone, and were likewise higher without exception for the metropolitan area than for the rural counties north of Tehachapi. The per cent foreign born was also higher among all classes of brides in Los Angeles than in the rest of Southern California.

Of all the single brides in 1913 and 1912, the per cents born in California were 38.6 and 40.2; the per cents born in other states were 41.3 and 39.8; and the per cents foreign born were 20.1 and 20.0. For 1909 to 1913, moreover, the annual average per cents were: California, 41.2; other states, 39.3; and foreign, 19.5. That is, California girls and other Americans each form about two fifths of the single brides in this State, while only about one fifth of the single brides here were born abroad.

Of the widows remarrying in 1913 and 1912, the per cents born elsewhere in the United States than California were 53.2 and 51.9; the per cents foreign born were 26.0 and 25.7; and the per cents born in California were 20.8 and 22.4. Moreover, the annual average per cents for the last five years were: Other states, 52.1; foreign countries, 25.5; and California, 22.4. As compared with the per cent distributions of all white brides taken together, the per cents for the widowed are very high for those born outside California, whether in other states or foreign countries, while the per cents are relatively very low for the widowed brides born in the Golden State.

Of all the divorcees remarrying in 1913 and 1912, the per cents born in other states were as great as 56.3 and 55.9; the per cents born in California were 30.2 and 31.3; and the per cents foreign born were only 13.5 and 12.8. Furthermore, the annual average per cents for 1909 to 1913 were: Other American, 55.2; Californian, 31.7; and foreign, only 13.1. In short, American women born in other states comprise the great bulk of the divorced brides in California, and while the native daughters form a considerable proportion of the divorcees remarrying, the foreign born constitute a very small proportion indeed.

Conclusion.—That the native daughters should constitute the bulk of the single brides necessarily follows from the fact that most of the marriageable young women in California were born and reared in the glorious climate of this Golden State. That the great bulk of the widowed brides were born outside California, and only a comparatively small proportion were born within the Golden State, would naturally be expected from the fact that very few women born in California are old enough to have been married and become widows, so that most of the widows remarrying here must necessarily have come from other states or foreign countries. The very great disparity between the proportions for the American born and the foreign born among divorced brides is evidently due to a difference in the attitude toward divorce and remarriage between the American and foreign elements of the white population.

TABLE 9.—Marriages Classified by Number in Order and

County	Total marriages	Number of marriage				Groom			Single
		First of both parties	First of groom only	First of bride only	Second or over of both	Single	Wid-owed	Di-voiced	
CALIFORNIA	31,383	22,494	3,006	2,469	2,814	26,100	2,739	2,544	24,963
Alameda	2,874	2,074	307	256	237	2,381	247	246	2,330
Alpine									
Amador	64	44	10	6	4	54	6	4	50
Butte	223	163	22	17	21	185	21	17	180
Calaveras	29	20	7		2	27	1	1	20
Colusa	34	23	2	3	1	30	2	2	31
Contra Costa	239	174	26	19	20	200	15	24	193
Del Norte	24	20	3	1		23	1		21
El Dorado	39	29	3	4	3	32	4	3	33
Fresno	964	722	85	68	79	807	87	60	790
Glenn	64	52	5	3	4	57	2	5	55
Humboldt	281	230	15	21	15	245	21	15	251
Imperial	205	154	18	20	13	172	20	13	174
Inyo	50	39	5	2	4	44	4	2	41
Kern	423	292	56	39	36	348	32	43	331
Kings	188	151	12	11	14	163	11	14	162
Lake	35	28	4	1	2	32	2	1	29
Lassen	36	28	4		4	32		4	28
Los Angeles	7,584	5,335	826	638	755	6,191	765	628	6,003
Madera	89	64	10	5	10	74	7	8	69
Marin	1,069	689	130	102	118	869	89	131	791
Mariposa	5	5				5			5
Mendocino	180	126	26	14	14	152	15	13	140
Merced	147	115	16	7	9	131	7	9	122
Modoc	58	39	6	3	5	45	5	3	42
Mono	2	1	1			2			1
Monterey	168	119	20	17	12	139	12	17	136
Napa	189	136	18	17	18	154	12	23	153
Nevada	76	65	6	2	3	71	5		67
Orange	1,359	855	191	142	171	1,046	135	178	997
Placer	89	72	6	4	7	78	7	4	76
Plumas	26	17	7		2	24	1	1	17
Riverside	415	279	43	38	55	322	54	39	317
Sacramento	1,142	771	191	62	118	962	97	83	833
San Benito	50	40	5	2	3	45	2	3	42
San Bernardino	680	492	74	50	64	566	65	49	542
San Diego	1,410	936	174	130	170	1,110	174	126	1,066
San Francisco	5,940	4,520	634	399	387	5,154	397	339	4,919
San Joaquin	692	487	100	47	57	588	47	57	535
San Luis Obispo	186	144	18	9	15	162	14	10	153
San Mateo	381	251	62	32	36	313	24	44	283
Santa Barbara	314	227	31	24	32	258	35	21	251
Santa Clara	1,024	731	109	97	87	840	102	82	828
Santa Cruz	253	174	37	18	24	211	18	24	192
Shasta	141	93	21	12	15	114	13	14	105
Sierra	11	7	3	1		10	1		8
Siskiyou	164	109	25	12	18	134	12	18	121
Solano	174	133	13	16	12	146	13	15	149
Sonoma	408	287	55	25	41	342	32	34	312
Stanislaus	230	188	16	8	18	204	14	12	196
Sutter	36	25	5	3	3	30	6		28
Tehama	109	77	13	5	14	90	13	6	82
Trinity	14	10	1	1	2	11	3		11
Tulare	340	261	24	26	29	285	39	16	287
Tuolumne	50	43	2	2	3	45	1	4	45
Ventura	182	144	14	10	14	158	13	11	154
Yolo	125	84	26	8	7	110	8	7	92
Yuba	94	64	13	10	7	77	6	11	74

Marital Condition of Parties, with Per Cents, for Counties: 1913.

Bride		Per cent of marriages				Per cent of grooms			Per cent of brides		
Wid-owed	Di-ivorced	First of both parties	First of groom only	First of bride only	Second or over of both	Single	Wid-owed	Di-ivorced	Single	Wid-owed	Di-ivorced
3,181	3,239	71.7	11.5	7.9	8.9	83.2	8.7	8.1	79.6	10.1	10.3
269	275	72.2	10.7	8.9	8.2	82.8	8.6	8.6	81.1	9.3	9.6
8	6	68.8	15.6	9.4	-6.2	84.4	9.4	6.2	78.1	12.5	9.4
20	26	72.8	10.9	7.9	8.4	83.7	6.3	10.0	80.7	8.4	10.9
4	5	69.0	24.1		6.9	93.1	3.5	3.4	69.0	13.8	17.2
1	2	82.4	5.9	8.8	2.9	88.2	5.9	5.9	91.2	2.9	5.9
20	26	72.8	10.9	7.9	8.4	83.7	6.3	10.0	80.7	8.4	10.9
1	2	83.3	12.5	4.2		95.8	4.2		87.5	4.2	8.3
4	2	74.4	7.7	10.2	7.7	82.0	10.3	7.7	84.6	10.3	5.1
94	70	75.7	8.9	7.1	8.3	84.6	9.1	6.3	82.8	9.9	7.3
6	3	81.3	7.8	4.7	6.2	89.1	3.1	7.8	85.9	9.4	4.7
17	13	81.9	5.3	7.5	5.8	87.2	7.5	5.3	89.3	6.1	4.6
13	18	75.1	8.8	9.8	6.8	83.9	9.8	6.3	84.9	6.3	8.8
6	3	78.0	10.0	4.0	8.0	88.0	8.0	4.0	82.0	12.0	6.0
47	45	69.0	13.3	9.2	8.5	82.3	7.5	10.2	78.3	11.1	10.6
15	11	80.3	6.4	5.9	7.4	86.7	5.9	7.4	86.2	8.0	5.8
4	2	80.0	11.4	2.9	5.7	91.4	5.7	2.9	82.9	11.4	5.7
3	5	77.8	11.1		11.1	88.9		11.1	77.8	8.3	13.9
870	711	70.7	10.9	8.4	10.0	81.6	10.1	8.3	79.1	11.5	9.4
7	13	71.9	11.3	5.6	11.2	83.1	7.9	9.0	77.5	7.9	14.6
117	181	63.3	16.5	9.4	10.8	79.8	8.2	12.0	72.6	10.8	16.6
		100.0				100.0			100.0		
22	18	70.0	14.4	7.8	7.8	84.5	8.3	7.2	77.8	12.2	10.0
14	11	78.2	10.9	4.8	6.1	89.1	4.8	6.1	83.0	9.5	7.5
8	8	73.6	11.3	5.7	9.4	84.9	9.4	5.7	79.2	15.1	5.7
1		50.0	50.0			100.0			50.0	50.0	
13	19	70.8	11.9	10.1	7.2	82.7	7.2	10.1	81.0	7.7	11.3
19	17	72.0	9.5	9.0	9.5	81.5	6.3	12.2	80.9	10.1	9.0
5	4	85.5	7.9	2.6	4.0	93.4	6.6		88.1	6.6	5.3
181	181	62.9	14.1	10.4	12.6	77.0	9.9	13.1	73.4	13.3	13.3
5	8	80.9	6.7	4.5	7.9	87.6	7.9	4.5	85.4	5.6	9.0
3	6	65.4	26.9		7.7	92.3	3.9	3.8	65.4	11.5	23.1
56	42	67.2	10.4	9.2	13.2	77.6	13.0	9.4	78.4	13.5	10.1
123	186	67.5	16.7	5.4	10.4	84.2	8.5	7.3	72.9	10.8	16.3
5	3	80.0	10.0	4.0	6.0	90.0	4.0	6.0	84.0	10.0	6.0
87	51	72.4	10.9	7.3	9.4	83.2	9.6	7.2	79.7	12.3	7.5
192	152	66.4	12.3	9.2	12.1	78.7	12.4	8.9	75.6	13.6	10.8
450	571	76.1	10.7	6.7	6.5	86.8	6.7	6.5	82.8	7.6	9.6
17	86	70.5	14.5	6.8	8.2	85.0	6.8	8.2	77.3	10.3	12.4
17	16	77.4	9.7	4.8	8.1	87.1	7.5	5.4	82.3	9.1	8.6
31	67	65.9	16.3	8.4	9.4	82.2	6.3	11.5	74.3	8.1	17.6
31	32	72.3	9.9	7.6	10.2	82.2	11.1	6.7	79.9	9.9	10.2
88	106	71.4	10.6	9.5	8.5	82.0	10.0	8.0	80.9	8.6	10.5
27	34	68.8	14.6	7.1	9.5	83.4	7.1	9.5	75.9	10.7	13.4
18	18	66.0	14.9	8.5	10.6	80.9	9.2	9.9	74.4	12.8	12.8
1	2	63.6	27.3	9.1		90.9	9.1		72.7	9.1	18.2
14	29	66.5	15.2	7.3	11.0	81.7	7.3	11.0	73.8	8.5	17.7
13	12	76.4	7.5	9.2	6.9	83.9	7.5	8.6	85.6	7.5	6.9
46	50	70.3	13.5	6.1	10.1	83.8	7.9	8.3	76.5	11.3	12.2
14	20	81.7	7.0	3.5	7.8	88.7	6.1	5.2	85.2	6.1	8.7
4	4	69.5	13.9	8.3	8.3	83.3	16.7		77.8	11.1	11.1
18	9	70.6	11.9	4.6	12.9	82.6	11.9	5.5	75.2	16.5	8.3
3		71.4	7.2	7.1	14.3	78.6	21.4		78.6	21.4	
25	28	76.8	7.1	7.6	8.5	83.8	11.5	4.7	84.4	7.4	8.2
5		86.0	4.0	4.0	6.0	90.0	2.0	8.0	90.0	10.0	
16	12	79.1	7.7	5.5	7.7	86.8	7.1	6.1	84.6	8.8	6.6
16	17	67.2	20.8	6.4	5.6	88.0	6.4	5.6	73.6	12.8	13.6
13	7	68.1	13.8	10.6	7.5	81.9	6.4	11.7	78.7	13.8	7.5

TABLE 10.—Marriages Classified by Number in Order and

County	Total marriages	Number of marriage				Groom			
		First of both parties	First of groom only	First of bride only	Second or over of both	Single	Widowed	Divorced	Single
CALIFORNIA	31,276	22,811	3,422	2,387	2,656	26,233	2,602	2,441	25,193
Alameda	2,821	2,074	304	234	209	2,378	217	226	2,305
Alpine	2	1	1			2			1
Amador	62	44	10	7	1	54	3	5	51
Butte	252	177	29	17	29	203	26	20	194
Calaveras	85	29	2	2	2	31	3	1	31
Colusa	32	25	2	2	3	27	2	3	27
Contra Costa	210	161	21	13	15	182	16	12	174
Del Norte	21	14	5		2	19	1	1	14
El Dorado	44	32	5	2	5	37	4	3	34
Fresno	973	763	79	67	64	842	69	62	830
Glenn	63	52	7	5	2	59	3	4	57
Humboldt	329	279	16	14	20	285	14	20	293
Imperial	154	116	19	12	7	135	11	8	128
Inyo	26	12	5	5	4	17	6	3	17
Kern	464	344	56	37	27	400	31	33	381
Kings	239	188	22	12	17	210	13	16	200
Lake	37	26	2	3	6	28	4	5	29
Lassen	37	26	3	5	3	29	5	3	31
Los Angeles	7,490	5,352	794	602	742	6,146	765	579	5,954
Madera	93	66	11	10	6	77	7	9	76
Marin	1,294	818	224	116	136	1,042	107	145	934
Mariposa	8	7	1			8			7
Mendocino	193	149	15	13	16	164	19	10	162
Merced	138	101	18	7	12	119	16	3	108
Modoc	58	46	2	6	4	48	6	4	52
Mono	6	5	1			6			5
Monterey	202	149	22	12	19	171	17	14	161
Napa	159	115	19	10	15	134	13	12	125
Nevada	91	64	14	5	8	78	8	5	69
Orange	1,290	817	190	106	177	1,007	136	147	923
Placer	111	84	8	11	8	92	11	8	95
Plumas	25	20	3	1	1	23	1	1	21
Riverside	448	320	45	35	48	335	42	41	355
Sacramento	1,142	765	162	107	108	927	98	117	872
San Benito	76	62	6	1	7	68	5	3	63
San Bernardino	650	445	83	58	64	528	79	43	503
San Diego	1,134	775	121	117	121	896	124	114	892
San Francisco	6,102	4,810	572	388	332	5,382	357	363	5,196
San Joaquin	620	443	76	40	61	519	47	54	483
San Luis Obispo	185	137	16	15	17	153	16	16	152
San Mateo	385	252	61	30	42	313	30	42	282
Santa Barbara	297	204	35	29	29	239	30	28	233
Santa Clara	1,004	714	108	79	103	822	74	109	793
Santa Cruz	270	195	31	19	25	226	24	20	214
Shasta	121	95	9	9	8	104	7	10	104
Sierra	11	10			1	10		1	10
Siskiyou	143	110	19	10	4	129	6	8	120
Solano	164	123	24	7	10	147	8	9	130
Sonoma	427	318	44	30	35	362	35	30	348
Stanislaus	239	185	27	13	14	212	14	13	198
Sutter	28	25		1	2	25	2	1	26
Tehama	106	88	6	4	8	94	8	4	92
Trinity	10	8	2			10			8
Tulare	324	252	23	29	20	275	27	22	281
Tuolumne	50	36	6	4	4	42	3	5	40
Ventura	214	162	23	15	14	185	14	15	177
Yolo	93	72	7	6	8	79	10	4	78
Yuba	71	49	6	5	11	55	8	8	54

Marital Condition of Parties, with Per Cents, for Counties: 1912.

Bride		Per cent of marriages				Per cent of grooms			Per cent of brides		
Wid-owed	Di-voiced	First of both parties	First of groom only	First of bride only	Second or over of both	Single	Wid-owed	Di-voiced	Single	Wid-owed	Di-voiced
3,014	8,064	72.9	11.0	7.6	8.5	83.9	8.3	7.8	80.6	9.6	9.8
247	266	73.5	10.8	8.3	7.4	84.3	7.7	8.0	81.8	8.8	9.4
	1	50.0	50.0			100.0			50.0		50.0
9	2	71.0	16.1	11.3	1.6	87.1	4.8	8.1	82.3	14.5	3.2
26	32	70.2	11.5	6.8	11.5	81.8	10.3	7.9	77.0	10.3	12.7
2	2	82.9	5.7	5.7	5.7	88.6	8.6	2.8	88.6	5.7	5.7
1	4	78.1	6.3	6.2	9.4	84.4	6.2	9.4	84.4	3.1	12.5
12	24	76.7	10.0	6.2	7.1	86.7	7.6	5.7	82.9	5.7	11.4
5	2	68.7	23.8		9.5	90.5	4.8	4.7	66.7	23.8	9.5
7	3	72.7	11.4	4.5	11.4	84.1	9.1	6.8	77.3	15.9	6.8
77	66	78.4	8.1	6.9	6.6	86.5	7.1	6.4	85.3	7.9	6.8
5	4	78.8	10.6	7.6	3.0	89.4	4.5	6.1	86.4	7.6	6.0
18	18	84.8	4.9	4.2	6.1	89.7	4.2	6.1	89.0	5.5	5.5
14	12	75.3	12.8	7.8	4.6	87.7	7.1	5.2	83.1	9.1	7.8
3	6	46.2	19.2	19.2	15.4	65.4	23.1	11.5	65.4	11.5	23.1
37	46	74.1	12.1	8.0	5.8	86.2	6.7	7.1	82.1	8.0	9.9
14	25	78.7	9.2	5.0	7.1	87.9	5.4	6.7	83.7	5.8	10.5
3	5	70.3	5.4	8.1	16.2	75.7	10.8	13.5	78.4	8.1	13.5
2	4	70.3	8.1	13.5	8.1	78.4	13.5	8.1	83.8	5.4	10.8
855	681	71.5	10.6	8.0	9.9	82.1	10.2	7.7	79.5	11.4	9.1
5	12	71.0	11.8	10.8	6.4	82.8	7.5	9.7	81.7	5.4	12.9
144	216	63.2	17.3	9.0	10.5	80.5	8.3	11.2	72.2	11.1	16.7
	1	87.5	12.5			100.0			87.5		12.5
20	11	77.2	7.8	6.7	8.3	85.0	9.8	5.2	83.9	10.4	5.7
16	14	73.2	13.0	5.1	8.7	86.2	11.6	2.2	78.3	11.6	10.1
2	4	79.3	3.5	10.3	6.9	82.8	10.3	6.9	89.7	3.4	6.9
	1	83.3	16.7			100.0			83.3		16.7
26	15	73.8	10.9	5.9	9.4	84.7	8.4	6.9	79.7	12.9	7.4
22	12	72.3	12.0	6.3	9.4	84.3	8.2	7.5	78.6	13.8	7.6
11	11	70.3	15.4	5.5	8.8	85.7	8.8	5.5	75.8	12.1	12.1
174	198	63.4	14.7	8.2	13.7	78.1	10.5	11.4	71.5	13.5	15.0
8	8	75.7	7.2	9.9	7.2	82.9	9.9	7.2	85.6	7.2	7.2
3	1	80.0	12.0	4.0	4.0	92.0	4.0	4.0	84.0	12.0	4.0
47	46	71.4	10.1	7.8	10.7	81.5	9.4	9.1	79.2	10.5	10.3
128	144	67.0	14.2	9.4	9.4	81.2	8.6	10.2	76.4	11.0	12.6
9	4	81.6	7.9	1.3	9.2	89.5	6.6	3.9	82.9	11.8	5.3
87	60	68.5	12.8	8.9	9.8	81.2	12.2	6.6	77.4	13.4	9.2
121	121	68.3	10.7	10.3	10.7	79.0	10.9	10.1	78.6	10.7	10.7
402	502	78.8	9.4	6.4	5.4	88.2	5.9	5.9	85.2	6.6	8.2
63	74	71.5	12.3	6.4	9.8	83.7	7.6	8.7	77.9	10.2	11.9
16	17	74.1	8.6	8.1	9.2	82.7	8.7	8.6	82.2	8.6	9.2
35	68	65.5	15.8	7.8	10.9	81.3	7.8	10.9	73.2	9.1	17.7
34	30	68.7	11.8	9.8	9.7	80.5	10.1	9.4	78.5	11.4	10.1
103	108	71.1	10.7	7.9	10.3	81.9	7.4	10.7	79.0	10.3	10.7
29	27	72.2	11.5	7.0	9.3	83.7	8.9	7.4	79.3	10.7	10.0
7	10	78.5	7.5	7.4	6.6	85.9	5.8	8.3	85.9	5.8	8.3
	1	90.9			9.1	90.9		9.1	90.9		9.1
8	15	76.9	13.3	7.0	2.8	90.2	4.2	5.6	83.9	5.6	10.5
17	17	75.0	14.6	4.3	6.1	89.6	4.9	5.5	79.3	10.4	10.3
41	38	74.5	10.3	7.0	8.2	84.8	8.2	7.0	81.5	9.6	8.9
25	16	77.4	11.3	5.4	5.9	88.7	5.9	5.4	82.8	10.5	6.7
2		89.3		3.6	7.1	89.3	7.1	3.6	92.9	7.1	
5	9	83.0	5.7	3.8	7.5	88.7	7.5	3.8	86.8	4.7	8.5
1	1	80.0	20.0			100.0			80.0	10.0	10.0
27	16	77.8	7.1	8.9	6.2	84.9	8.3	6.8	86.7	8.3	5.0
3	7	72.0	12.0	8.0	8.0	84.0	6.0	10.0	80.0	6.0	14.0
20	17	75.7	10.8	7.0	6.5	86.5	6.5	7.0	82.7	9.3	8.0
10	5	77.4	7.5	6.5	8.6	84.9	10.8	4.3	83.9	10.7	5.4
2	9	69.0	8.5	7.0	15.5	77.5	11.3	11.2	76.0	11.3	12.7

TABLE 11.—Brides Classified by Race, Nativity, and Marital Condition, with Per Cent Distribution by Marital Condition, for Geographic Divisions: 1913.

Geographic division and race or nativity of bride	Brides			Per cent			
	Total	Single	Widowed	Divorced	Single	Widowed	Divorced
THE STATE	31,288	24,903	3,181	3,239	79.6	10.1	10.3
White	30,089	23,863	3,070	3,166	79.3	10.2	10.5
Born in California.....	10,804	9,209	638	967	85.2	5.9	8.9
Born in other states.....	13,271	9,856	1,634	1,781	74.3	12.3	13.4
Foreign born	6,014	4,788	796	428	79.6	13.3	7.1
Non-caucasian	1,294	1,110	111	73	85.8	8.6	5.6
Northern California	2,287	1,831	231	225	80.1	10.1	9.8
White	2,244	1,800	224	220	80.2	10.0	9.8
Born in California.....	1,282	1,131	68	83	88.2	5.3	6.5
Born in other states.....	639	429	102	106	67.1	16.0	16.9
Foreign born	323	240	54	29	74.3	16.7	9.0
Non-caucasian	43	31	7	5	72.1	16.3	11.6
Coast counties	1,131	917	112	102	81.1	9.9	9.0
White	1,113	904	106	101	81.2	9.7	9.1
Born in California.....	647	570	37	40	88.1	5.7	6.2
Born in other states.....	241	161	35	45	66.8	14.5	18.7
Foreign born	225	173	36	16	76.9	16.0	7.1
Non-caucasian	18	13	4	1	72.2	22.2	5.6
Interior counties	1,156	914	119	123	79.1	10.3	10.6
White	1,131	896	116	119	79.2	10.3	10.5
Born in California.....	635	561	31	43	88.3	4.9	6.8
Born in other states.....	398	268	67	63	67.4	16.8	15.8
Foreign born	98	67	18	13	68.4	18.4	13.2
Non-caucasian	25	18	3	4	72.0	12.0	16.0
Central California	16,947	13,628	1,504	1,815	80.4	8.9	10.7
White	16,049	12,801	1,466	1,738	79.8	9.1	11.1
Born in California.....	7,278	6,145	432	701	84.4	6.0	9.6
Born in other states.....	5,118	3,706	606	807	72.4	11.8	15.8
Foreign born	3,653	2,950	428	275	80.8	11.7	7.5
Non-caucasian	898	827	39	32	92.1	4.3	3.6
San Francisco	5,940	4,919	450	571	82.8	7.6	9.6
White	5,215	4,217	434	534	80.9	8.3	10.8
Born in California.....	2,214	1,870	121	223	84.4	5.5	10.1
Born in other states.....	1,355	939	147	239	71.5	10.9	17.6
Foreign born	1,646	1,378	166	102	83.7	10.1	6.2
Non-caucasian	725	702	16	7	96.8	2.2	1.0
Other bay counties.....	4,583	3,597	437	549	78.5	9.5	12.0
White	4,490	3,528	428	534	78.6	9.5	11.9
Born in California.....	2,152	1,824	134	194	84.8	6.2	9.0
Born in other states.....	1,431	1,027	163	241	71.8	11.4	16.8
Foreign born	907	677	131	99	74.6	14.5	10.9
Non-caucasian	93	69	9	15	74.2	9.7	16.1
Coast counties	1,681	1,351	150	180	80.4	8.9	10.7
White	1,666	1,338	149	179	80.3	8.9	10.8
Born in California.....	848	732	41	75	86.3	4.8	8.9
Born in other states.....	513	365	68	80	71.1	13.3	15.6
Foreign born	305	241	40	24	79.0	13.1	7.9
Non-caucasian	15	13	1	1	86.7	6.7	6.6
Interior counties	4,743	3,761	467	515	79.3	9.8	10.9
White	4,678	3,718	454	508	79.5	9.7	10.8
Born in California.....	2,064	1,719	136	209	83.3	6.6	10.1
Born in other states.....	1,819	1,345	227	247	73.9	12.5	13.6
Foreign born	795	654	91	50	82.3	11.4	6.3
Non-caucasian	65	43	13	9	66.2	20.0	13.8

TABLE 11—Continued.

Geographic division and race or nativity of bride	Brides				Per cent		
	Total	Single	Widowed	Divorced	Single	Widowed	Divorced
<i>Southern California</i>	12,149	9,504	1,446	1,199	78.2	11.9	9.9
White	11,796	9,252	1,381	1,163	78.4	11.7	9.9
Born in California	2,244	1,933	188	173	83.1	6.2	7.7
Born in other states	7,514	5,721	927	863	76.2	12.3	11.5
Foreign born	2,068	1,598	316	124	78.4	15.5	6.1
Non-caucasian	353	252	65	36	71.4	18.4	10.2
Los Angeles	7,584	6,003	870	711	79.1	11.5	9.4
White	7,352	5,837	826	689	79.4	11.2	9.4
Born in California	1,240	1,078	62	100	86.9	5.0	8.1
Born in other states	4,753	3,679	562	512	77.4	11.8	10.8
Foreign born	1,359	1,080	202	77	79.5	14.8	5.7
Non-caucasian	232	166	44	22	71.5	19.0	9.5
Other counties	4,565	3,501	576	488	76.7	12.6	10.7
White	4,444	3,415	555	474	76.8	12.5	10.7
Born in California	1,004	855	76	73	85.1	7.6	7.3
Born in other states	2,761	2,042	365	354	74.0	13.2	12.8
Foreign born	679	518	114	47	76.3	16.8	6.9
Non-caucasian	121	86	21	14	71.1	17.3	11.6
<i>Northern and Central California</i>	19,234	15,459	1,735	2,040	80.4	9.0	10.4
White	18,293	14,601	1,680	2,003	79.8	9.2	11.0
Born in California	8,560	7,270	500	784	85.0	5.8	9.2
Born in other states	5,756	4,135	707	915	71.8	12.3	15.9
Foreign born	3,976	3,190	482	304	80.2	12.1	7.7
Non-caucasian	941	858	46	37	91.2	4.9	3.9
Coast counties	13,335	10,784	1,149	1,402	80.9	8.6	10.5
White	12,484	9,987	1,119	1,378	80.0	9.0	11.0
Born in California	5,851	4,993	333	532	85.2	5.7	9.1
Born in other states	3,540	2,522	413	605	71.2	11.7	17.1
Foreign born	3,083	2,469	373	241	80.1	12.1	7.8
Non-caucasian	851	797	30	24	93.7	3.5	2.8
Interior counties	5,899	4,675	586	638	79.3	9.9	10.8
White	5,809	4,614	570	625	79.4	9.8	10.8
Born in California	2,690	2,280	167	252	84.5	6.2	9.3
Born in other states	2,217	1,613	294	310	72.7	13.3	14.0
Foreign born	893	721	109	63	80.7	12.2	7.1
Non-caucasian	90	61	16	13	67.8	17.8	14.4
Metropolitan area	10,523	8,516	887	1,120	80.9	8.4	10.7
White	9,705	7,745	832	1,098	79.8	8.9	11.3
Born in California	4,366	3,694	255	417	84.6	5.8	9.6
Born in other states	2,786	1,996	310	480	71.7	11.1	17.2
Foreign born	2,553	2,065	297	201	80.5	11.6	7.9
Non-caucasian	818	771	25	22	94.2	3.1	2.7
Rural counties	8,711	6,943	848	920	79.7	9.7	10.6
White	8,588	6,856	827	905	79.8	9.6	10.6
Born in California	4,194	3,582	245	367	85.4	5.8	8.8
Born in other states	2,971	2,139	397	435	72.0	13.4	14.6
Foreign born	1,423	1,135	185	103	79.8	13.0	7.2
Non-caucasian	123	87	21	15	70.7	17.1	12.2

TABLE 12.—Brides Classified by Race, Nativity, and Marital Condition, with Per Cent Distribution by Marital Condition, for Geographic Divisions: 1912.

Geographic division and race or nativity of bride	Brides				Per cent		
	Total	Single	Widowed	Divorced	Single	Widowed	Divorced
THE STATE -----	31,276	25,198	3,014	3,064	80.6	9.6	9.8
White -----	29,882	23,931	2,916	2,985	80.2	9.8	10.0
Born in California -----	11,208	9,617	652	934	85.9	5.8	8.3
Born in other states -----	12,713	9,529	1,514	1,670	75.0	11.9	13.1
Foreign born -----	5,916	4,785	750	381	80.9	12.7	6.4
Non-caucasian -----	1,444	1,267	98	79	87.7	6.8	5.5
Northern California -----	2,328	1,981	198	199	83.0	8.5	8.5
White -----	2,277	1,888	194	195	82.9	8.5	8.6
Born in California -----	1,308	1,156	65	87	88.4	5.0	6.6
Born in other states -----	670	485	92	93	72.4	13.7	13.9
Foreign born -----	299	247	37	15	82.6	12.4	5.0
Non-caucasian -----	51	43	4	4	84.3	7.9	7.8
Coast counties -----	1,176	979	110	87	83.2	9.4	7.4
White -----	1,153	960	107	86	83.3	9.3	7.4
Born in California -----	649	575	34	40	88.6	5.2	6.2
Born in other states -----	287	199	51	37	69.3	17.8	12.9
Foreign born -----	217	186	22	9	85.7	10.1	4.2
Non-caucasian -----	23	19	3	1	82.6	13.0	4.4
Interior counties -----	1,152	952	88	112	82.7	7.6	9.7
White -----	1,124	928	87	109	82.6	7.7	9.7
Born in California -----	659	581	31	47	88.2	4.7	7.1
Born in other states -----	383	288	41	58	74.7	10.7	14.6
Foreign born -----	82	61	15	6	74.4	18.3	7.3
Non-caucasian -----	28	24	1	3	85.7	3.6	10.7
Central California -----	17,271	14,102	1,464	1,705	81.6	8.5	9.9
White -----	16,215	13,008	1,435	1,692	80.8	8.8	10.4
Born in California -----	7,669	6,508	463	698	84.9	6.0	9.1
Born in other states -----	4,840	3,569	542	739	73.5	11.2	15.3
Foreign born -----	3,706	3,031	430	245	81.8	11.6	6.6
Non-caucasian -----	1,066	1,004	29	23	95.1	2.7	2.2
San Francisco -----	6,102	5,198	402	502	85.2	6.6	8.2
White -----	5,195	4,309	390	496	82.9	7.5	9.6
Born in California -----	2,268	1,947	125	196	85.9	5.5	8.6
Born in other states -----	1,254	922	122	210	73.5	9.7	16.8
Foreign born -----	1,673	1,440	143	90	86.1	8.5	5.4
Non-caucasian -----	907	889	12	6	98.0	1.3	0.7
Other bay counties -----	4,710	3,698	438	574	78.5	9.3	12.2
White -----	4,633	3,640	429	564	78.6	9.2	12.2
Born in California -----	2,327	1,942	133	252	83.5	5.7	10.8
Born in other states -----	1,362	984	151	227	72.2	11.1	16.7
Foreign born -----	944	714	145	85	75.6	15.4	9.0
Non-caucasian -----	77	58	9	10	75.3	11.7	13.0
Coast counties -----	1,737	1,383	183	171	79.6	10.5	9.9
White -----	1,721	1,371	180	170	79.7	10.4	9.9
Born in California -----	967	797	62	78	85.1	6.6	8.3
Born in other states -----	460	324	68	68	70.4	14.8	14.8
Foreign born -----	324	250	50	24	77.2	15.4	7.4
Non-caucasian -----	16	12	3	1	75.0	18.8	6.2
Interior counties -----	4,722	3,823	441	458	81.0	9.3	9.7
White -----	4,666	3,778	436	452	81.0	9.3	9.7
Born in California -----	2,137	1,822	143	172	85.3	6.7	8.0
Born in other states -----	1,764	1,329	201	234	75.3	11.4	13.3
Foreign born -----	765	627	92	46	82.0	12.0	6.0
Non-caucasian -----	56	45	5	6	80.4	8.9	10.7

TABLE 12—Continued.

Geographic division and race or nativity of bride	Brides				Per cent		
	Total	Single	Widowed	Divorced	Single	Widowed	Divorced
<i>Southern California</i> -----	11,677	9,165	1,352	1,160	78.5	11.6	9.9
White -----	11,340	8,945	1,287	1,108	78.9	11.3	9.8
Born in California -----	2,226	1,963	124	149	87.7	5.6	6.7
Born in other states -----	7,203	5,485	880	838	76.2	12.2	11.6
Foreign born -----	1,911	1,507	283	121	78.9	14.8	6.3
Non-caucasian -----	337	220	66	52	65.3	19.3	15.4
Los Angeles -----	7,490	5,954	855	681	79.5	11.4	9.1
White -----	7,249	5,797	805	647	80.0	11.1	8.9
Born in California -----	1,281	1,128	64	89	88.1	5.0	6.9
Born in other states -----	4,626	3,604	543	479	77.9	11.7	10.4
Foreign born -----	1,342	1,065	198	79	79.4	14.7	5.9
Non-caucasian -----	241	157	50	34	65.1	20.8	14.1
Other counties -----	4,187	3,211	497	479	76.7	11.9	11.4
White -----	4,091	3,148	482	461	76.9	11.8	11.3
Born in California -----	945	825	60	60	87.3	6.4	6.3
Born in other states -----	2,577	1,881	337	359	73.0	13.1	13.9
Foreign born -----	569	442	85	42	77.7	14.9	7.4
Non-caucasian -----	96	63	15	18	65.6	15.6	18.8
<i>Northern and Central California</i> -----	19,599	16,033	1,662	1,904	81.8	8.5	9.7
White -----	18,492	14,986	1,629	1,877	81.0	8.8	10.2
Born in California -----	8,977	7,664	528	785	85.4	5.9	8.7
Born in other states -----	5,510	4,044	634	832	73.4	11.5	15.1
Foreign born -----	4,005	3,278	467	260	81.8	11.7	6.5
Non-caucasian -----	1,107	1,047	33	27	94.6	3.0	2.4
Coast counties -----	13,725	11,258	1,133	1,334	82.0	8.3	9.7
White -----	12,702	10,280	1,106	1,316	80.9	8.7	10.4
Born in California -----	6,181	5,261	354	506	85.1	5.7	9.2
Born in other states -----	3,363	2,429	392	542	72.2	11.7	16.1
Foreign born -----	3,158	2,590	360	208	82.0	11.4	6.6
Non-caucasian -----	1,023	978	27	18	95.6	2.6	1.8
Interior counties -----	5,874	4,775	529	570	81.3	9.0	9.7
White -----	5,790	4,706	523	561	81.3	9.0	9.7
Born in California -----	2,796	2,403	174	219	86.0	6.2	7.8
Born in other states -----	2,147	1,615	242	290	75.2	11.3	13.5
Foreign born -----	847	688	107	52	81.2	12.6	6.2
Non-caucasian -----	84	69	6	9	82.2	7.1	10.7
Metropolitan area -----	10,812	8,893	840	1,076	82.3	7.8	9.9
White -----	9,828	7,949	819	1,030	80.9	8.3	10.8
Born in California -----	4,595	3,889	258	448	84.6	5.6	9.8
Born in other states -----	2,616	1,906	273	437	72.9	10.4	16.7
Foreign born -----	2,617	2,154	288	175	82.3	11.0	6.7
Non-caucasian -----	984	947	21	16	96.3	2.1	1.6
Rural counties -----	8,787	7,137	822	828	81.2	9.4	9.4
White -----	8,664	7,037	810	817	81.2	9.4	9.4
Born in California -----	4,382	3,775	270	337	83.1	6.2	7.7
Born in other states -----	2,894	2,138	361	395	73.9	12.5	13.6
Foreign born -----	1,388	1,124	179	85	81.0	12.9	6.1
Non-caucasian -----	123	100	12	11	81.3	9.8	8.9

TABLE 13.—White Brides Classified by Marital Condition and Nativity, with Per Cent Distribution by Nativity, for Geographic Divisions: 1913.

Geographic division and marital condition of bride	White brides				Per cent		
	Total	Born in California	Born in other states	Foreign born	Born in California	Born in other states	Foreign born
THE STATE	30,069	10,804	13,271	6,014	35.9	44.1	20.0
Single	23,863	9,200	9,856	4,788	38.6	41.3	20.1
Widowed	3,070	688	1,634	708	20.8	53.2	26.0
Divorced	3,166	957	1,781	428	30.2	56.3	13.5
Northern California	2,244	1,282	639	323	57.1	28.5	14.4
Single	1,800	1,131	429	240	62.8	23.9	13.3
Widowed	224	68	102	54	30.4	45.5	24.1
Divorced	220	83	108	29	37.7	49.1	13.2
Coast counties	1,113	647	241	225	58.1	21.7	20.2
Single	904	570	181	173	63.1	17.8	19.1
Widowed	108	37	35	36	34.3	32.4	33.3
Divorced	101	40	45	16	39.6	44.6	15.8
Interior counties	1,131	635	398	98	56.1	35.2	8.7
Single	896	561	268	67	62.6	29.9	7.5
Widowed	116	31	67	18	26.7	57.8	15.5
Divorced	119	43	63	13	36.1	58.0	10.9
Central California	16,049	7,278	5,118	3,653	45.3	31.9	22.8
Single	12,801	6,145	3,706	2,950	48.0	29.0	23.0
Widowed	1,465	432	605	428	29.5	41.3	29.2
Divorced	1,783	701	807	275	39.3	45.3	15.4
San Francisco	5,215	2,214	1,355	1,646	42.4	26.0	31.6
Single	4,217	1,870	969	1,378	44.3	23.0	32.7
Widowed	434	121	147	166	27.9	33.9	38.2
Divorced	564	223	239	102	39.5	42.4	18.1
Other bay counties	4,490	2,152	1,431	907	47.9	31.9	20.2
Single	3,528	1,824	1,027	677	51.7	29.1	19.2
Widowed	428	134	163	131	31.3	38.1	30.6
Divorced	534	194	241	99	36.3	45.1	18.6
Coast counties	1,666	848	513	305	50.9	30.8	18.3
Single	1,338	732	365	241	54.7	27.3	18.0
Widowed	149	41	68	40	27.5	45.6	26.9
Divorced	179	75	80	24	41.9	44.7	13.4
Interior counties	4,678	2,064	1,819	795	44.1	38.9	17.0
Single	3,718	1,719	1,345	654	46.2	36.2	17.6
Widowed	454	136	227	91	30.0	50.0	20.0
Divorced	506	209	247	50	41.3	48.8	9.9
Southern California	11,796	2,244	7,514	2,038	19.0	63.7	17.3
Single	9,252	1,983	5,721	1,598	20.9	61.8	17.3
Widowed	1,381	138	927	316	10.0	67.1	22.9
Divorced	1,163	173	866	124	14.9	74.6	10.7
Los Angeles	7,352	1,240	4,753	1,359	16.9	64.6	18.5
Single	5,837	1,078	3,679	1,080	18.5	63.0	18.5
Widowed	826	62	582	202	7.5	68.0	24.5
Divorced	689	100	512	77	14.5	74.3	11.2
Other counties	4,444	1,004	2,761	679	22.6	62.1	15.3
Single	3,415	855	2,042	518	25.0	59.8	15.2
Widowed	555	76	365	114	13.7	65.8	20.5
Divorced	474	73	354	47	15.4	74.7	9.9
Northern and Central California	18,293	8,560	5,756	3,976	46.8	31.5	21.7
Single	14,601	7,276	4,185	3,190	49.8	28.3	21.9
Widowed	1,689	500	707	482	29.6	41.9	28.5
Divorced	2,003	784	915	304	39.1	45.7	15.2
Coast counties	12,484	5,861	3,540	3,083	46.9	28.4	24.7
Single	9,987	4,906	2,522	2,499	50.0	25.3	24.7
Widowed	1,119	333	413	373	29.8	39.9	33.3
Divorced	1,378	532	605	241	38.6	43.9	17.5
Interior counties	5,809	2,699	2,217	893	46.4	38.2	15.4
Single	4,614	2,280	1,613	721	49.4	35.0	15.6
Widowed	570	167	294	109	29.3	51.6	19.1
Divorced	625	252	310	63	40.3	49.6	10.1
Metropolitan area	9,705	4,399	2,786	2,553	45.0	28.7	26.3
Single	7,745	3,694	1,996	2,055	47.7	25.8	26.5
Widowed	862	255	310	297	29.6	36.0	34.4
Divorced	1,098	417	480	201	38.0	43.7	18.3
Rural counties	8,588	4,194	2,971	1,423	48.8	34.6	16.6
Single	6,856	3,582	2,139	1,135	52.2	31.2	16.6
Widowed	827	245	397	185	29.6	48.0	22.4
Divorced	905	367	435	103	40.5	48.1	11.4

TABLE 14.—White Brides Classified by Marital Condition and Nativity, with Per Cent Distribution by Nativity, for Geographic Divisions: 1912.

Geographic division and marital condition of bride	White brides				Per cent		
	Total	Born in California	Born in other states	Foreign born	Born in California	Born in other states	Foreign born
THE STATE	29,832	11,208	12,713	5,916	37.6	42.6	19.8
Single	23,981	9,617	9,529	4,785	40.2	39.8	20.0
Widowed	2,916	662	1,514	750	22.4	51.9	25.7
Divorced	2,965	934	1,670	381	31.3	55.9	12.8
Northern California	2,277	1,306	670	299	57.5	29.4	13.1
Single	1,888	1,156	485	247	61.2	25.7	13.1
Widowed	194	65	92	37	33.5	47.4	19.1
Divorced	195	87	93	15	44.6	47.7	7.7
Coast counties	1,153	649	287	217	56.3	24.9	18.8
Single	990	575	199	186	59.9	20.7	19.4
Widowed	107	34	51	22	31.8	47.7	20.5
Divorced	86	40	37	9	46.5	43.0	10.5
Interior counties	1,124	659	383	82	58.6	34.1	7.3
Single	928	581	286	61	62.6	30.8	6.6
Widowed	87	31	41	15	35.6	47.1	17.3
Divorced	109	47	56	6	43.1	51.4	5.5
Central California	16,215	7,669	4,840	3,706	47.3	29.8	22.9
Single	13,096	6,508	3,569	3,031	49.7	27.2	23.1
Widowed	1,435	463	542	430	32.3	37.8	29.9
Divorced	1,682	698	739	245	41.5	43.9	14.6
San Francisco	5,195	2,268	1,254	1,673	43.7	24.1	32.2
Single	4,309	1,947	922	1,440	45.2	21.4	33.4
Widowed	390	125	122	143	32.0	31.3	36.7
Divorced	496	196	210	90	39.5	42.3	18.2
Other bay counties	4,633	2,327	1,362	944	50.2	29.4	20.4
Single	3,640	1,942	964	714	53.4	27.0	19.6
Widowed	429	133	151	145	31.0	35.2	33.8
Divorced	564	252	227	85	44.7	40.2	15.1
Coast counties	1,721	937	460	324	54.5	26.7	18.8
Single	1,371	797	324	250	58.1	23.6	18.3
Widowed	180	62	68	50	34.4	37.8	27.8
Divorced	170	78	68	24	45.9	40.0	14.1
Interior counties	4,666	2,137	1,764	765	45.8	37.8	16.4
Single	3,773	1,822	1,329	627	48.2	35.2	16.6
Widowed	436	143	201	92	32.8	46.1	21.1
Divorced	452	172	234	46	38.0	51.8	10.2
Southern California	11,340	2,226	7,203	1,911	19.6	63.5	16.9
Single	8,945	1,953	5,485	1,507	21.8	61.3	16.9
Widowed	1,287	124	890	283	9.6	68.4	22.0
Divorced	1,106	149	838	121	13.5	75.6	10.9
Los Angeles	7,249	1,281	4,626	1,342	17.7	63.8	18.5
Single	5,797	1,128	3,604	1,065	19.4	62.2	13.4
Widowed	805	64	543	198	7.9	67.5	24.6
Divorced	647	89	479	79	13.8	74.0	12.2
Other counties	4,091	945	2,577	569	23.1	63.0	13.9
Single	3,148	825	1,881	442	26.2	59.8	14.0
Widowed	482	60	337	85	12.5	69.9	17.6
Divorced	461	60	359	42	13.0	77.9	9.1
Northern and Central California	18,492	8,977	5,510	4,005	48.5	29.8	21.7
Single	14,993	7,664	4,044	3,278	51.1	27.0	21.9
Widowed	1,629	523	634	467	32.4	38.9	28.7
Divorced	1,877	785	832	260	41.8	44.3	13.9
Coast counties	12,702	6,181	3,363	3,158	48.6	23.5	24.9
Single	10,280	5,261	2,429	2,590	51.2	23.6	25.2
Widowed	1,106	354	392	360	32.0	35.4	36.0
Divorced	1,316	566	542	208	43.0	41.2	15.8
Interior counties	5,790	2,796	2,147	847	48.3	37.1	14.6
Single	4,706	2,403	1,615	688	51.1	34.3	14.6
Widowed	523	174	242	107	33.3	46.3	20.4
Divorced	561	219	290	52	39.0	51.7	9.3
Metropolitan area	9,828	4,595	2,616	2,617	46.8	26.6	26.6
Single	7,949	3,880	1,906	2,154	48.9	24.0	27.1
Widowed	819	258	273	288	31.5	33.3	35.2
Divorced	1,060	448	437	175	42.3	41.2	16.5
Rural counties	8,664	4,382	2,804	1,388	50.6	33.4	16.0
Single	7,037	3,775	2,138	1,124	53.6	30.4	16.0
Widowed	810	270	361	179	33.3	44.6	22.1
Divorced	817	337	395	85	41.3	48.3	10.4

TABLE 15.—Brides Classified by Race and Nativity, with Per Cent

County	Total brides, 1913						Total
	Total	White			Non-Caucasian		
		Total	Born in California	Born in other states		Foreign born	
CALIFORNIA.....	31,383	30,089	10,804	13,271	6,014	1,294	31,276
Alameda.....	2,874	2,795	1,280	938	577	79	2,821
Alpine.....							2
Amador.....	64	64	41	8	15		62
Butte.....	223	220	110	97	13	3	252
Calaveras.....	29	29	18	5	6		35
Colusa.....	34	34	20	12	2		32
Contra Costa.....	239	239	100	67	72		210
Del Norte.....	24	18	7	8	3	6	21
El Dorado.....	39	37	27	8	2	2	44
Fresno.....	954	938	277	433	228	16	973
Glenn.....	64	64	38	21	5		66
Humboldt.....	281	276	161	51	64	5	329
Imperial.....	205	190	24	137	29	15	154
Inyo.....	50	48	23	24	1	2	26
Kern.....	423	417	141	237	39	6	464
Kings.....	188	184	55	79	50	4	239
Lake.....	35	35	22	10	3		37
Lassen.....	36	35	23	12		1	37
Los Angeles.....	7,584	7,352	1,240	4,753	1,359	232	7,490
Madera.....	89	89	43	35	11		93
Marin.....	1,089	1,079	592	305	182	10	1,294
Mariposa.....	5	5	3	2			8
Mendocino.....	180	175	105	34	36	5	193
Merced.....	147	146	60	50	36	1	138
Modoc.....	53	50	31	16	3	3	53
Mono.....	2	2	1	1			6
Monterey.....	168	167	97	51	19	1	202
Napa.....	189	188	106	44	38	1	159
Nevada.....	76	76	51	13	12		91
Orange.....	1,359	1,343	264	916	163	16	1,290
Placer.....	89	88	52	21	15	1	111
Plumas.....	26	24	12	11	1	2	25
Riverside.....	415	402	37	252	63	13	448
Sacramento.....	1,142	1,125	588	361	176	17	1,142
San Benito.....	50	50	33	11	6		76
San Bernardino.....	680	651	150	401	100	29	650
San Diego.....	1,410	1,371	270	876	225	39	1,134
San Francisco.....	5,940	5,215	2,214	1,355	1,646	725	6,102
San Joaquin.....	692	685	373	214	98	7	620
San Luis Obispo.....	186	185	109	50	26	1	185
San Mateo.....	331	377	180	121	76	4	385
Santa Barbara.....	314	307	128	116	63	7	297
Santa Clara.....	1,024	1,014	485	335	194	10	1,004
Santa Cruz.....	253	250	124	66	60	3	270
Shasta.....	141	137	81	46	10	4	121
Sierra.....	11	11	7	4			11
Siskiyou.....	164	158	77	61	20	6	143
Solano.....	174	171	102	45	24	3	164
Sonoma.....	408	406	235	94	79		427
Stanislaus.....	230	226	82	99	45	4	239
Sutter.....	36	35	25	10		1	28
Tehama.....	109	108	52	51	5	1	106
Trinity.....	14	13	11		2	1	10
Tulare.....	340	339	121	172	46	1	324
Tuolumne.....	50	50	31	11	8		50
Ventura.....	182	180	81	63	36	2	214
Yolo.....	125	123	78	35	10	2	98
Yuba.....	94	91	56	23	12	3	71

Distribution of White Brides by Nativity, for Counties: 1913 and 1912.

Total brides, 1912					Per cent of white brides					
Total	White			Non-Caucasian	Born in California		Born in other states		Foreign born	
	Born in California	Born in other states	Foreign born		1913	1912	1913	1912	1913	1912
29,882	11,208	12,713	5,916	1,444	35.9	37.6	44.1	42.6	20.0	19.8
2,753	1,324	847	582	68	45.8	48.1	33.0	30.8	20.6	21.1
2	2					100.0				
61	40	4	17	1	64.1	65.6	12.5	6.5	23.4	27.9
244	134	97	13	8	50.0	54.9	44.1	39.8	5.9	5.3
35	26	2	7		62.1	74.3	17.2	5.7	20.7	20.0
31	24	6	1	1	58.8	77.4	35.3	19.4	5.9	3.2
210	99	54	57		41.9	47.2	28.0	25.7	30.1	27.1
16	3	11	2	5	88.9	18.8	44.4	68.7	16.7	12.5
44	27	14	3		73.0	61.4	21.6	31.8	5.4	6.6
961	341	422	198	12	29.5	35.5	46.2	43.9	24.3	20.6
66	30	29	7		59.4	45.5	32.8	43.9	7.8	10.6
320	170	70	80	9	58.3	53.1	18.5	21.9	23.2	25.0
144	23	93	28	10	12.6	16.0	72.1	64.6	15.3	19.4
26	14	9	3		47.9	53.9	50.0	34.6	2.1	11.5
459	153	256	43	5	33.8	33.3	56.8	56.2	9.4	10.5
238	81	89	68	1	29.9	34.0	42.9	37.4	27.2	28.6
37	24	13			62.8	64.9	28.6	35.1	8.6	
37	26	8	3		65.7	70.3	34.3	21.6		8.1
7,249	1,281	4,626	1,342	241	16.9	17.7	64.6	63.8	18.5	18.5
93	48	30	15		48.3	51.6	39.3	32.3	12.4	16.1
1,288	708	352	228	6	54.8	55.0	28.3	27.3	16.9	17.7
8	5	3			60.0	62.5	40.0	37.5		
185	120	40	25	8	60.0	64.9	19.4	21.6	20.6	13.5
136	58	53	25	2	41.1	42.6	34.2	39.0	24.7	18.4
56	35	20		3	62.0	63.6	32.0	36.4	6.0	
6	5	1			50.0	33.3	50.0	16.7		
198	126	46	26	4	58.1	63.7	30.5	23.2	11.4	13.1
159	86	51	22		56.4	54.1	23.4	32.1	20.2	13.8
90	69	13	8	1	67.1	76.7	17.1	14.4	15.8	8.9
1,270	257	873	140	20	19.7	20.2	68.2	68.8	12.1	11.0
111	64	34	13		59.1	57.7	23.9	30.6	17.0	11.7
25	16	8	1		50.0	64.0	45.8	32.0	4.2	4.0
433	108	271	54	15	21.6	24.9	62.7	62.6	15.7	12.5
1,129	606	354	169	13	52.3	53.7	32.1	31.3	15.6	15.0
75	52	10	13	1	66.0	69.4	22.0	13.3	12.0	17.3
629	125	406	96	21	23.0	19.9	61.6	64.5	15.4	15.6
1,107	213	723	171	27	19.7	19.2	68.9	65.3	16.4	15.5
5,196	2,268	1,254	1,673	907	42.4	43.7	26.0	24.1	31.6	32.2
609	343	181	85	11	54.5	56.3	31.2	29.7	14.3	14.0
183	116	45	22	2	58.9	63.4	27.0	24.6	14.1	12.0
382	196	109	77	3	47.7	51.3	32.1	28.5	20.2	20.2
294	125	124	45	3	41.7	42.5	37.8	42.2	20.5	15.3
997	504	284	209	7	47.8	30.5	33.1	28.5	19.1	21.0
268	139	75	54	2	49.6	51.9	26.4	28.0	24.0	20.1
121	76	35	10		59.1	62.8	33.6	28.9	7.3	8.3
11	5	3	3		63.6	45.4	36.4	27.3		27.3
133	57	62	14	10	48.7	42.9	38.6	46.6	12.7	10.5
158	93	39	26	6	59.7	58.9	26.3	24.7	14.0	16.4
426	227	101	88	1	57.6	55.6	23.0	23.7	19.4	20.7
237	83	110	44	2	36.3	35.0	43.8	46.4	19.9	18.6
27	14	11	2	1	71.4	51.9	28.6	40.7		7.4
106	65	37	3	1	48.2	61.9	47.2	35.2	4.6	2.9
10	9	1			84.6	90.0		10.0	15.4	
324	124	161	39		35.7	38.3	50.7	49.7	13.6	12.0
50	29	9	12		62.0	58.0	22.0	18.0	16.8	24.0
214	94	87	33		45.0	43.9	35.0	40.7	20.0	15.4
90	59	25	6	3	63.4	65.5	28.5	27.8	8.1	6.7
68	44	20	4	3	61.5	64.7	25.3	29.4	13.2	5.9

Table 16.—Brides Classified by Race, Nativity

County	Single brides										Total	Total
	Total	White				Non-Caucasian				Total		
		Total	Born in California	Born in other states	Foreign born	Negro	Indian	Chinese	Japanese			
CALIFORNIA	24,933	23,853	9,209	9,856	4,788	322	52	35	701	3,181	3,070	
Alameda	2,330	2,272	1,116	708	448	45		6	7	269	290	
Alpine												
Amador	50	50	33	5	12					8	8	
Butte	180	179	98	70	11	1				20	20	
Calaveras	20	20	15	2	3					4	4	
Colusa	31	31	20	10	1					1	1	
Contra Costa	193	193	84	49	60					20	20	
Del Norte	21	16	7	6	3		5			1		
El Dorado	33	32	24	6	2	1				4	3	
Fresno	790	778	239	347	198	7		1	2	94	92	
Glenn	55	55	36	18	1					6	6	
Humboldt	251	246	148	39	59		5			17	17	
Imperial	174	164	22	116	26	10				13	12	
Inyo	41	39	19	19	1	1	1			6	6	
Kern	331	323	119	176	33	1		1	1	47	45	
Kings	162	159	46	65	48			1	2	15	15	
Lake	29	29	20	8	1					4	4	
Lassen	28	27	21	6			1			3	3	
Los Angeles	6,003	5,837	1,078	3,679	1,060	155		2	9	870	836	
Madera	69	69	35	26	8					7	7	
Marin	791	784	476	192	116	7				117	117	
Mariposa	5	5	3	2								
Mendocino	140	138	89	22	27		2			22	20	
Merced	122	122	52	37	33					14	14	
Modoc	42	40	27	11	2		2			8	8	
Mono	1	1	1							1	1	
Monterey	136	135	84	33	13				1	13	13	
Napa	153	152	93	29	30	1				19	19	
Nevada	67	67	45	11	11					5	5	
Orange	997	996	218	653	115	11				181	179	
Placer	76	75	47	18	10				1	5	5	
Plumas	17	16	8	8					1	3	2	
Riverside	317	307	71	188	48	3	7			56	53	
Sacramento	833	820	453	229	138	6	2		5	123	120	
San Benito	42	42	31	7	4					5	5	
San Bernardino	542	522	135	305	82	10	9	1		87	80	
San Diego	1,066	1,040	225	644	171	20	5	1		192	184	
San Francisco	4,919	4,217	1,870	969	1,378	21	1	17	663	450	434	
San Joaquin	535	532	308	149	75	3				71	68	
San Luis Obispo	153	152	96	33	23			1		17	17	
San Mateo	283	279	148	78	53	3		1		31	31	
Santa Barbara	251	244	109	90	45	5	1		1	31	31	
Santa Clara	828	820	418	244	158	3		2	3	88	87	
Santa Cruz	192	189	103	43	43				3	27	27	
Shasta	105	101	69	23	9	1	3			18	18	
Sierra	8	8	5	3						1	1	
Siskiyou	121	116	65	36	15		5			14	14	
Solano	149	146	96	32	18	3				13	13	
Sonoma	312	312	203	57	52					46	46	
Stanislaus	196	195	73	87	35	1				14	12	
Sutter	28	28	22	6						4	3	
Tehama	82	81	47	32	2			1		18	18	
Trinity	11	11	10		1					3	2	
Tulare	287	286	111	132	43	1				25	25	
Tuolumne	45	45	29	10	6					5	5	
Ventura	154	152	75	46	31				2	16	16	
Yolo	92	91	64	21	6	1				16	16	
Yuba	74	72	51	16	5	2				13	12	

and Marital Condition, for Counties: 1913.

Widowed brides								Divorced brides								
White				Non-Caucasian				Total	White				Non-Caucasian			
Born in California	Born in other states	Foreign born		Negro	Indian	Chinese	Japa- nese		Total	Born in California	Born in other states	Foreign born		Negro	Indian	Chinese
638	1,634	798		83	11	6	11	3,239	3,166	957	1,731	428	59	7	1	6
75	99	86		7	1	1		275	263	89	131	43	12			
4	1	3						6	6	4	2					
7	13							23	21	5	14	2	2			
2		2						5	5	1	3	1				
	1							2	2		1	1				
6	9	5						26	26	10	9	7				
					1			2	2		2					
2	1			1				2	2	1	1					
17	45	30			1		1	70	68	22	41	5	1			1
1	2	3						3	3	1	1	1				
7	7	3						13	13	6	5	2				
1	8	3		1				18	14	1	13		4			
2	4							3	3	2	1					
8	34	3		2				45	44	14	27	3	1			
3	10	2						11	10	6	4		1			
2	1	1						2	2	2	1	1				
	3							5	5	2	3					
62	562	202		42			2	711	689	100	512	77	19			3
4	2	1						13	13	4	7	2				
42	45	30						181	173	74	68	36	3			
5	8	7			2			18	17	11	4	2		1		
3	8	3						11	10	5	5		1			
3	4	1						3	2	1	1			1		
1																
4	5	4						19	19	9	8	2				
7	5	7						17	17	6	10	1				
3	1	1						4	4	3	1					
26	117	36		2				181	178	20	146	12	2	1		
1	1	3						8	8	4	2	2				
1	1				1			6	6	3	2	1				
9	35	9		3				42	42	7	29	6				
47	54	19		2			1	186	185	88	78	19	1			
	3	2						3	3	2	1					
8	57	15		6	1			51	49	7	39	3		2		
19	130	35		5	3			152	147	26	102	19	5			
121	147	166		5		5	6	571	564	223	239	102	5		1	1
26	30	12		2			1	86	85	39	35	11	1			
6	10	1						16	16	7	7	2				
11	10	10						67	67	21	33	13				
10	10	11						32	32	9	16	7				
24	42	21		1				108	107	43	49	15				1
7	8	12						34	34	14	15	5				
6	11	1						18	18	6	12					
	1							2	2	2						
3	8	3						29	23	9	17			1		
4	8	1						12	12	2	5	5				
15	14	17						50	50	17	23	10				
3	1	8		2				20	19	6	11	2	1			
	3			1				4	4	3	1					
3	12	3						9	9	2	7					
1	1	1			1											
3	20	2						28	28	7	20	1				
2	1	2														
3	8	5						12	12	3	9					
6	7	3						17	16	8	7	1		1		
3	6	3		1				7	7	2	1	4				

TABLE 17.—Brides Classified by Race, Nativity

County	Single brides									Total	Total
	Total	White			Non-Caucasian						
		Total	Born in California	Born in other	Foreign born	Negro	Indian	Chinese	Japan-ese		
CALIFORNIA -----	25,198	23,931	9,617	9,529	4,785	283	57	34	893	3,014	2,916
Alameda -----	2,308	2,257	1,149	649	459	40		6	5	247	238
Alpine -----	1	1	1								
Amador -----	51	50	36	1	13		1				9
Butte -----	194	188	116	65	7	2	3		1	26	25
Calaveras -----	31	31	24	1	6					2	2
Colusa -----	27	26	19	6	1		1			1	1
Contra Costa -----	174	174	85	40	49					12	12
Del Norte -----	14	10	3	5	2		4			5	4
El Dorado -----	34	34	23	9	2					7	7
Fresno -----	890	820	306	344	170	4	2	1	3	77	76
Glenn -----	57	57	28	24	5					5	5
Humboldt -----	293	285	160	51	74		8			18	18
Imperial -----	128	123	21	79	23	5				14	13
Inyo -----	17	17	9	6	2					3	3
Kern -----	381	376	126	212	38	5				37	37
Kings -----	200	200	72	64	64					14	13
Lake -----	29	29	22	7						3	3
Lassen -----	31	31	25	4	2					2	2
Los Angeles -----	5,964	5,797	1,128	3,604	1,065	141	1	4	11	855	805
Madera -----	76	76	46	17	13					5	5
Marin -----	934	930	557	222	151	4				144	144
Mariposa -----	7	7	5	2							
Mendocino -----	102	156	103	31	22		6			20	18
Merced -----	168	107	51	33	23	1				16	16
Modoc -----	52	49	31	18			3			2	2
Mono -----	5	5	4	1							
Monterey -----	161	158	107	31	107	20	2	1		26	26
Napa -----	125	125	71	38	16					22	22
Nevada -----	69	68	56	9	3			1		11	11
Orange -----	923	912	219	593	97	10			1	174	171
Placer -----	95	95	58	27	10					8	8
Plumas -----	21	21	12	8	1					3	3
Riverside -----	355	344	97	200	47	1	8		2	47	45
Sacramento -----	872	859	485	244	130	7			6	126	126
San Benito -----	63	62	44	7	11	1				9	9
San Bernardino -----	503	490	109	312	69	8	5			87	83
San Diego -----	892	871	192	539	140	19	2			121	117
San Francisco -----	5,196	4,309	1,947	922	1,440	12	1	16	800	402	390
San Joaquin -----	483	475	290	121	64	4		3	1	63	62
San Luis Obispo -----	152	150	105	29	16	1		1		16	16
San Mateo -----	282	279	151	73	55	3				35	35
Santa Barbara -----	233	231	106	89	36	1	1			34	33
Santa Clara -----	793	788	424	200	164	3		1	1	103	101
Santa Cruz -----	214	213	117	57	39				1	29	26
Shasta -----	104	104	70	26	8					7	7
Sierra -----	10	10	4	3	3						
Siskiyou -----	120	111	53	44	14		9			8	8
Solano -----	130	127	82	25	20	3				17	15
Sonoma -----	348	347	208	67	72		1			41	41
Stanislaus -----	198	196	67	93	36	2				25	25
Sutter -----	26	25	13	10	2	1				2	2
Tehama -----	92	91	59	30	2				1	5	5
Trinity -----	8	8	8							1	1
Tulare -----	281	281	116	132	38					27	27
Tuolumne -----	40	40	25	7	8					3	3
Ventura -----	177	177	81	66	30					20	20
Yolo -----	78	76	54	17	5	1	1			10	10
Yuba -----	54	52	37	12	3	2				8	8

and Marital Condition, for Counties: 1912.

Widowed brides								Divorced brides							
White			Non-Caucasian				Total	White				Non-Caucasian			
Born in California	Born in other states	Foreign born	Negro	Indian	Chinese	Japanese		Total	Born in California	Born in other states	Foreign born	Negro	Indian	Chinese	Japanese
662	1,514	750	82	5	2	8	3,064	2,985	934	1,670	381	67	5	2	5
67	86	85	8			1	266	258	108	112	38	8			
3	3	3					1	1	1						
8	13	4		1			2	2	1		1				
1		1					2	2	1	1				1	
1							4	4	4						
3		5					24	24	11	10	3				
	4			1			2	2			2				
4	2	1					3	3		3					
17	86	23	1				66	65	18	42	5	1			
1	3	1					4	4	1	2	1				
3	11	4					18	17	7	8	2		1		
	10	3	1				12	8	2	4	2	4			
1	2						6	6	4	1	1				
12	18	7					46	46	15	23	3				
2	7	4	1				25	25	7	19					
1	2						5	5	1	4					
1	1						4	4		3	1				
64	543	198	50				681	647	89	479	79	29	1		4
2	3						12	12		10	2				
48	50	46					216	214	103	80	31	2			
							1	1		1					
10	5	3		2			11	11	7	4					
2	12	2					14	13	5	8		1			
1	1						4	4	3	1					
							1	1	1						
12	11	3					15	14	7	4	3	1			
7	11	4					12	12	8	2	2				
6	1	4					11	11	7	3	1				
21	122	28	3				193	187	17	155	15	6			
1	4	3					8	8	5	3					
3							1	1	1						
4	35	6	2				46	44	7	36	1	2			
56	48	22					144	144	65	62	17				
6	1	2					4	4	2	2					
8	51	24	4				60	56	8	43	5	2	2		
11	89	17	3	1			121	119	10	95	14	2			
125	122	143	5		1	6	502	496	196	210	90	4		1	1
19	31	12				1	74	72	34	29	9	2			
5	7	4					17	17	6	9	2				
15	11	9					68	68	30	25	13				
9	18	6	1				30	30	10	17	3				
32	38	31	1		1		108	108	48	46	14				
7	11	10	1				27	27	15	7	5				
2	3	2					10	10	4	6					
							1	1	1						
3	5						15	14	1	13			1		
7	4	4	2				17	16	4	10	2	1			
13	17	11					38	38	16	17	5				
9	11	5					16	16	7	6	3				
1	1														
	5						9	9	6	2	1				
	1						1	1	1						
5	17	5					16	16	3	12	1				
		3					7	7	4	2	1				
7	12	1					17	17	6	9	2				
3	7						5	4	2	1	1	1			
3	4	1					9	8	4	4		1			

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Smallpox.

During 1913, 803 cases of smallpox were reported in California. But 15 of these cases proved fatal, showing that the disease, generally, was of a mild character. The virulent form, however, appeared in Alameda and Imperial counties. The counties reporting the largest number of cases were Los Angeles 105, San Joaquin 83, Alameda 66, Sacramento 61, Butte 55, Nevada 52, and Imperial 42. The disease was endemic in San Joaquin and Nevada counties for many months. A considerable number of cases also appeared in Santa Clara and Kern counties; there was no outbreak of widespread extent, however. Nearly all of the cases were very mild, appearing suddenly, but no great numbers of people were affected at any one time. Most of the epidemics covered periods of three and four months, but no more than 23 cases were reported during any one month in the same place. The fact that the disease has been of such a mild form, throughout the year, however, does not indicate that there should be any cessation in the practice of vaccination, as the virulent cases appeared very suddenly, along with other cases that were mild in character.

Typhoid Fever.

During 1913, 1,474 cases of typhoid fever were reported. It is interesting to note that this disease, which has always been rated as a rural disease, is more prevalent in the large centers of population, according to reports, than it is in the rural districts. Alameda, Los Angeles and San Francisco counties, combined, reported 828 cases, more than half of the total number reported, while Sacramento reported 206 cases. Of course the use of polluted river water for domestic purposes in Sacramento is responsible for this large number of cases; although it is true that a large proportion of these cases were in persons who came into Sacramento from outside points. This is also true of Oakland, Los Angeles and San Francisco. While typhoid fever must still be rated as a rural disease in California, it is significant that but 440 cases were reported from the counties outside of Alameda, Los Angeles, San Francisco and Sacramento. Investigations conducted in San Francisco and Sacramento would tend to show that at least 50 per cent of urban cases are in persons who have returned from trips into the country; and it is safe to assume that for about one half of all cases occurring in cities, the disease was contracted in the rural districts. More cases of this disease are reported during the summer months than at any other time of the year, the climax coming generally in October when the number is almost invariably highest. During October, 1913, no less than 284 cases were reported. Of this number, 70 were in Los Angeles County, 56 in Alameda County, 54 in San Francisco and 23 in Sacramento. During July of the same year, however, Sacramento reported 57 cases. There were no outbreaks of sudden, widespread importance in any section of the State, although during July of 1913, 15 cases were reported from Stanislaus County, and a considerable number of cases were reported from Fresno County during the summer, as well as from Monterey, Tehama and Humboldt counties. In none of these places, however, was there any epidemic of grave importance. About 25 per cent of all cases reported, resulted fatally. The highest rate of mortality was

during November. The end of the vacation season brings the largest number of cases and the greatest number of deaths from the disease. The rate of mortality is higher in the winter months than it is in the summer months, although there were twice as many cases reported during the summer months as the winter months.

Tuberculosis.

In actual numbers, more cases of this disease were reported in 1913, than for any of the communicable diseases. The total for the year was 2,571, but some idea of how neglectfully this disease is reported may be gained, when it is stated, that there were 5,402 deaths during the same period. The disease was much more satisfactorily reported during the latter part of the year, when active steps were taken to secure reports from health officers and physicians. The division of communicable disease and the department of tuberculosis doubled their efforts to secure such reports with results that are fairly satisfactory, although there is still great room for improvement.

It is very difficult to secure reports from physicians, of cases of malaria and tuberculosis. This is due to the long chronic nature of the diseases and also to the reticence of both physician and patient to having the case reported. The reports by months for 1913 have no bearing upon the seasonal prevalence of the disease, for the reason that comparatively few reports were received early in the year. It is a well known fact, of course, that more cases of the disease make their appearance during the winter months than during the summer months, and the figures as submitted in this report must not be considered of any value as regards seasonal prevalence.

Whooping-cough.

The total number of cases for the year 1913 was 628. Most of these occurred during the spring and fall months, the maximum number being reported during October, 134, and the minimum number during February, when there were only three cases.

Diphtheria.

Six hundred and fifty-nine cases, with 184 deaths were reported during the year. In contrast with measles and mumps, this disease was more prevalent during the fall months of October, November and December, than during the spring and summer. There were no epidemics of importance, the cases having been well scattered throughout the entire State, the greatest number of cases, of course, having been reported from the large centers of population.

Scarlet Fever.

Like diphtheria, this disease was more prevalent during the fall months, the minimum number having been reported during August and September. There were 1,695 cases, with 85 deaths, reported. Most of these cases were in the large centers of population although, like diphtheria, the disease was widespread throughout all sections of the State.

Rabies.

Five cases of human rabies were reported during the year, making a total of 26 deaths from this disease since it first appeared in California.

Poliomyelitis.

There were 90 cases of poliomyelitis reported during 1913. Thirty-three of these cases were fatal. This is a much better record than for previous years, when there have been epidemics of grave importance. Most of these cases were reported during the fall months, October and November, although a considerable number were reported during July and August. The disease, however, was not nearly so widespread as during 1911 and 1912, when several hundred cases were reported. During those years, epidemics of serious import occurred.

Pellagra.

Eight cases of pellagra were reported during the year. With but one or two exceptions, these cases were all imported from other states, most of the patients concerned having come from the southern states. This disease has not yet made its appearance in California to such an extent as to cause the alarm which it has caused in many of the southern states. It is believed that not a single case of local origin has appeared in California.

Leprosy.

Ten cases of leprosy were reported during 1913. Most of these were discovered in Los Angeles and San Francisco, and in all cases the lepers were confined, in accordance with the provisions of the code. This makes the total number of lepers in California about 30, the greater part of whom are Mexicans in southern California.

Trachoma.

Fourteen cases of trachoma were reported. These cases were discovered in the schools for Indians and in the larger cities of the State. Ten of these cases were reported during November, but this indicated no particular outbreak of the disease.

Cerebrospinal Meningitis (Epidemic).

Sixty-seven cases of this disease were reported during the year, 49 of which proved fatal. Fifteen of these cases were in San Francisco, 14 in Los Angeles, 8 in Sacramento and 5 in San Bernardino counties. The largest number of cases to be reported during any one month was during March, when 8 cases were reported from Los Angeles. The disease appeared in 16 counties of the State, the mountain counties and most of the coast counties having reported no cases.

Chickenpox.

Chickenpox, like measles and mumps, was more prevalent during the spring months; 1,394 cases, in all, were reported; 290 cases were reported during January and but 26 during August.

Measles.

Out of 1,796 cases of measles reported during 1913, 154 proved fatal. Most of the fatal cases were in children under five years of age. The disease was more prevalent during the late winter and early spring months, very few cases having been reported during the late summer and early fall.

Mumps.

In numbers, mumps was next of importance after tuberculosis; 2,218 cases of the disease were reported, most of which occurred during March, April and May. The disease was widespread in the large centers of population throughout the State, but was of comparatively short duration, more than one half of the entire number having occurred during March and April.

GROUP I. COMMUNICABLE DISEASES.
Seasonal Prevalence and Mortality During 1913, by Months.

	January		February		March		April		May		June		July	
	Cases--	Deaths--	Cases--	Deaths--	Cases--	Deaths--	Cases--	Deaths--	Cases--	Deaths--	Cases--	Deaths--	Cases--	Deaths--
Diphtheria -----	154	12	71	7	154	17	107	22	112	15	110	15	99	5
Measles -----	229	4	200	8	266	8	315	29	315	37	215	28	89	13
Cerebrospinal meningitis (epidemic) -----	7	2	4	4	18	6	8	5	6	2	2	6	3	3
Poliomyelitis (infantile paralysis) -----	6	4	3	2	3	3	6	4	4	2	2	1	16	6
Scarlet fever -----	154	4	85	5	195	1	104	8	132	14	85	14	100	5
Smallpox -----	85	8	51	1	105	---	101	1	115	1	55	3	41	---
Tuberculosis -----	192	485	33	478	203	500	200	493	141	474	120	446	182	418
Typhoid fever -----	81	22	23	23	53	24	46	23	83	23	95	34	213	47
Totals -----	908	541	467	529	996	559	887	585	908	568	684	547	743	497

GROUP I. COMMUNICABLE DISEASES—Continued.

	August		September		October		November		December		Total cases, 1913	Total deaths, 1913
	Cases--	Deaths--	Cases--	Deaths--	Cases--	Deaths--	Cases--	Deaths--	Cases--	Deaths--		
Diphtheria -----	102	6	118	17	199	19	245	23	188	26	1,659	184
Measles -----	39	12	23	1	42	7	19	2	44	5	1,793	154
Cerebrospinal meningitis (epidemic) -----	3	5	3	7	8	4	4	5	1	67	49	
Poliomyelitis (infantile paralysis) -----	10	3	3	19	1	14	5	8	1	90	33	
Scarlet fever -----	78	4	84	7	244	1	228	14	206	8	1,695	85
Smallpox -----	35	---	35	35	---	04	1	81	---	---	803	15
Tuberculosis -----	163	383	204	391	410	442	386	415	339	445	2,573	5,402
Typhoid fever -----	183	49	165	47	284	52	124	56	134	35	1,484	435
Totals -----	613	462	632	466	1240	530	1084	520	1005	521	10,162	6,325

GROUP II. COMMUNICABLE DISEASES.
Seasonal Prevalence, by Months, During 1913.

	Jan.	Feb.	March	April.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Berl-beri -----	2	---	---	---	---	---	---	---	---	1	---	---	3
Chickenpox -----	290	65	250	187	162	53	60	26	47	133	---	121	1,894
Dengue -----	---	---	---	1	---	---	---	---	---	---	---	---	1
Dysentery -----	2	---	---	---	---	---	---	---	5	3	2	13	25
Erysipelas -----	22	2	---	18	20	15	21	4	10	9	11	15	147
German measles -----	---	---	---	---	---	---	---	3	4	5	8	4	24
Glanders -----	5	2	2	---	1	---	---	---	---	1	5	1	17
Gonococcus infection -----	3	10	4	8	9	37	11	11	---	12	4	8	117
Hookworm -----	---	---	---	---	---	---	---	1	---	1	---	---	2
Leprosy -----	---	1	---	---	2	---	1	1	---	2	1	2	10
Malaria -----	15	1	---	---	---	4	4	7	12	22	8	4	77
Mumps -----	284	33	636	546	390	28	40	45	45	61	70	40	2,218
Pellagra -----	---	---	---	---	---	2	1	4	---	---	---	---	8
Plague -----	---	---	---	---	---	---	---	1	---	---	---	---	1
Pneumonia -----	126	16	92	67	44	45	38	27	40	24	22	57	598
Rabies -----	---	---	---	---	2	---	---	1	---	---	2	---	5
Syphilis -----	---	1	3	2	2	---	5	1	5	9	2	2	32
Tetanus -----	---	---	---	3	2	---	---	2	3	3	---	2	15
Trachoma -----	1	1	---	---	---	---	1	---	---	1	10	---	14
Whooping-cough -----	58	3	---	58	78	22	21	62	52	134	65	75	623
Totals -----	808	135	987	890	711	207	203	196	223	422	211	344	5,337

TYPHOID FEVER.
Number of Cases Reported in California During 1913, by Months.

County	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total cases 1913
Alameda	20	7	6	10	16	16	29	18	19	56	22	14	233
Butte					3			2	2		4	5	16
Colusa				2	5	2	2	3	4	4		6	28
Contra Costa		1		2	1		2	1	1	1			9
El Dorado										1		1	2
Fresno						1	6	12	5	10		1	35
Glenn		1											1
Humboldt								8	2	4			14
Imperial	1								5	8		2	16
Kern				2			1		1		1		5
Kings		1	2					2					5
Lake	5							4					9
Lassen						3		6	3	3			15
Los Angeles	10	7	12	6	12	19	29	44	31	70	41	21	302
Madera			1		1	1			1				4
Mariposa							1		3	1			5
Mendocino			2						8	4			14
Merced			2								1		3
Modoc								1				2	3
Monterey									2	12	2	2	18
Napa										1			1
Nevada							7	7					14
Orange								1	3	3			7
Placer	2				1		1	2	1	1			8
Plumas									1	1			2
Riverside			2	1		1		1	2	2	1	2	12
Sacramento	18	2	8	3	12	20	57	12	15	23	2	34	206
San Benito								1		5	1		7
San Bernardino								5		2	6	4	17
San Diego					1		5	12	4	3	5		30
San Francisco	24		15	12	26	24	45	25	18	54	28	22	293
San Joaquin						1	1		1	1			4
San Luis Obispo						1							1
San Mateo						1	1		2			1	5
Santa Barbara					2			1				2	5
Santa Clara				2	1		2	5	5	2	1		18
Shasta								1	1				2
Sierra									2			1	3
Siskiyou				1					1	1			3
Solano				3			1	6	2	2		2	16
Sonoma			1				4	4	4	3			12
Stanislaus		1	2		1	2	15	1	7	4	3		36
Sutter								1			2		3
Tehama	1	1				2	2					11	17
Tulare				2				2			1		5
Yolo		2			1	1	1		1	1			7
Yuba									1	1	1		3
Totals	81	23	53	46	83	95	213	183	158	284	122	133	1,474

SMALLPOX.
Number of Cases Reported in California During 1913, by Months.

County	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total cases.
Alameda	22	11	8	4	4	2	3	1		1	5	5	63
Butte		1	17	18	17							2	55
Calaveras				7	3								10
Colusa											1		1
Contra Costa	3				15	2	3				2	1	26
El Dorado				1				1					2
Fresno		1	3								1	4	9
Glenn					1								1
Humboldt			1	1	1	3	1		1				8
Imperial	16	2		6	8	3					3	4	42
Kern			3	6	4		1		1	5	5	12	37
Lake						6	3		1				10
Lassen	1		1										2
Los Angeles	4	4	13	15	17	14	3	1	3	6	9	16	105
Marin			3	3	5								11
Mendocino					5	1		11				2	19
Merced									1				1
Nevada	1	1			5	11	6	8	8	8	3	1	52
Orange		2	6				1						9
Placer	2	1	1	1				1	2			2	10
Riverside				2								1	3
Sacramento	6	17	14	16	1	1	3	1		1		1	61
San Bernardino		1	10										11
San Diego	6	2		6	4	2						2	22
San Francisco	7		2	5	6	3	3		2	1	3	2	34
San Joaquin	1	1	13	9	2			2	4	9	23	19	83
San Mateo							1						1
Santa Barbara												1	1
Santa Clara				1	3	3		8	10	2	5	2	34
Santa Cruz	1										1	1	3
Shasta	13	4	2										19
Sierra									1				1
Siskiyou					3								3
Solano			3		7	3	7						20
Sonoma							4	1					5
Stanislaus			2			1	1			2	2	1	9
Sutter												2	2
Tehama		2	3		1								6
Tulare	1				3						1		5
Yolo	1	1					1		1				4
Totals	85	51	105	101	115	55	41	35	35	35	64	81	803

POLIOMYELITIS (INFANTILE PARALYSIS).
Number of Cases Reported in California During 1913, by Months.

County	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total cases.
Alameda	3									2			5
Fresno					2	1	2						5
Glenn												1	1
Humboldt										8	7	1	16
Kern				1									1
Kings				1				1					2
Los Angeles	2	2		1	1		2	4	2	5	4	4	27
Madera					1				1				2
Monterey				1									1
Placer				1									1
Riverside										1			1
Sacramento										1			1
San Bernardino	1						1			2			4
San Diego			1								3		4
San Francisco				1		1		1					3
San Luis Obispo			1										1
Santa Clara												2	3
Siskiyou							8						8
Stanislaus							1	2					3
Ventura								1					1
Totals	6	2	2	6	4	2	14	10	3	19	14	8	90

CEREBROSPINAL MENINGITIS (EPIDEMIC).
Number of Cases Reported in California During 1913, by Months.

County	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total cases.
Alameda		1	1	3	2					1	1	1	10
Contra Costa	1												1
Fresno	1												1
Humboldt								1					1
Imperial			1										1
Los Angeles	2	2	8							1	1		14
Merced	1							1					2
Monterey										1			1
Placer				1									1
Sacramento		1		4	1	1					1		8
San Bernardino			5										5
San Francisco	2		3		1	1	3			2	2	1	15
Stanislaus					1			1		1			3
Tulare												1	1
Yolo					1					1		1	3
Totals	7	4	18	8	6	2	3	3		7	5	4	67

REPORT OF BUREAU OF FOODS AND DRUGS.

By M. E. JAFFA, M.A., Director.

The report herewith submitted is the fourth biennial report of the activity of the State Food and Drug Laboratory for the period from July, 1912, to July, 1914. The data indicates the examination of 2,687 samples. This number is slightly lower than the corresponding figure for the previous biennial period. This is due to the fact that the last biennial report contained the results of work up to the first of August, while this report, herewith presented, covers the period ending June 30, 1914. If we add to the above figure the number of samples examined during the month of July, 1914, the total figure represents practically the same number of samples as was examined during the previous biennial period. It must, however, be understood that the number of samples examined is no criterion of the amount or the kind of work which is done at the laboratory.

The State Food and Drug Laboratory does not examine samples of milk and dairy products, except in a very few instances. The main bulk of this work is conducted under the supervision of the State Dairy Bureau. The samples of food products and drugs submitted to the State Laboratory require considerable work, far more than is necessary for the examination of milk or dairy products.

The cooperative work of the State Laboratory in the matter of the examination of supplies furnished state institutions has formed an important part of the work during the past two years. The supplies referred to consist, not only of all forms of food, food products, and drugs, but miscellaneous articles, such as blankets, coal, cutlery, oils, soaps, etc. Excellent results have followed such cooperation, in that the supplies furnished state institutions have greatly improved in quality, so that there is practically no waste with reference to the matter of food and drugs, and the financial saving has been very appreciable.

The laboratory has further been engaged in the matter of the examination of samples of sewage, sewage wastes, and factory wastes submitted by the State Fish and Game Commission and different cities.

As stated in the last report, the personnel of the Bureau of Food and Drugs should be increased. The force of inspectors has been added to so that there are now five inspectors working in connection with the Food and Drug Laboratory, three of these being food and drug inspectors, and two food inspectors only. It is the policy of the board, however, to hereafter appoint only those inspectors who can qualify for both food and drug inspection. The personnel of the laboratory will, we are glad to say, be increased, in that one more chemist is to be appointed very shortly. Even with this increase the force is far too small to adequately cope with the conditions that now exist in this State. The number of inspectors should be doubled and more chemists should be at work in the laboratory.

The State Laboratory has also been active in connection with educational enterprises. Too much importance cannot be placed on this branch of the activity of the laboratory. Lectures have been given before different associations, clubs, etc., and these were accompanied by exhibits which have been the means of interesting a very large number of con-

sumers. It is toward this class that educational work can be best directed.

The inspectors, as they travel over the State, are still meeting with the same cooperative spirit among dealers and manufacturers that was referred to in the last report. There are very few instances where the inspectors are not cordially received and the advice and suggestions in connection with the enforcement of the law gratefully accepted.

No reference is made here to the law, amendments, etc., as such data is published in detail elsewhere and can be obtained upon application to the Director of the State Laboratory, Berkeley, California.

Laboratory Work.

The data here reported represents the summary of chemical and microscopical examination of food and drugs and miscellaneous supplies furnished by state institutions. In addition, however, to the analytical work, as has been stated, much time is consumed with correspondence and interviews.

The data represented by the tables following are arranged alphabetically for the sake of convenient reference.

Baking Powders.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Baking powders		1		17	18
August 1, 1912, to August 1, 1913— Baking powders		2		23	25
August 1, 1913, to July 1, 1914— Baking powders		1		7	8
Totals, 1912-1914		3		30	33

It was stated in the last biennial report that no government standards for baking powders had been adopted. We regret to say that the same condition still obtains, and until the United States Department of Agriculture does adopt some standard with reference to this product and issues rules and regulations concerning the labeling, etc., no detailed studies will be profitable. All that is necessary under present conditions is that a baking powder be composed of materials ordinarily used, and that no injurious or deleterious substances be incorporated in the powder, and that the label must be a truthful one. Any false or misleading statement on the label would constitute a violation of the food law. As shown by the table, thirty-three samples have been examined, with the result that thirty were found to be unobjectionable in the eyes of the law.

Baking Sodas.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1912, to August 1, 1913— Baking sodas -----				4	4
August 1, 1913, to July 1, 1914— Baking sodas -----				2	2
Totals, 1912-1914 -----				6	6

As will be seen by the table, six samples of baking soda were submitted to the laboratory. These were samples from state institutions and were found to comply in all respects with the law.

Beers.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Beers -----			3	48	51
August 1, 1912, to July 1, 1914— Beers -----		2		2	4

In view of the fact that the United States Department of Agriculture has not published any standards for beers, no extensive investigations were carried on in connection with this product. A decision with reference to beers is expected in the very near future. As soon as such decision is issued the laboratory will take up this question in detail. Under present conditions it would not be a profitable source of investigation.

Beverages.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Beverages -----	23	40	94	155	312
August 1, 1912, to August 1, 1913— Beverages -----		6	9	20	35
August 1, 1913, to July 1, 1914— Beverages -----	1	1	4	5	11
Totals, 1912-1914 -----	1	7	13	25	46

For the period covered by this report forty-six samples of beverages were examined. Many different varieties of soft drinks were included. Fifty per cent of those tested were found to conform in every respect to the provisions of the California Food Act. The mislabeling consists in the main of the dealers and manufacturers not stating on the label the presence of artificial colors and flavors as required by law.

Breads.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Breads -----	5		5	6	16
August 1, 1912, to August 1, 1913— Breads -----			7	3	10
August 1, 1913, to July 1, 1914— Breads -----		1	3	1	5
Totals, 1912-1914 -----		1	10	4	15

Eighteen samples of breads were tested at the laboratory. Of these, thirteen were labeled gluten bread, but only four were entitled to such label. The remainder were mislabeled, in that the nitrogen content was far below that called for by a gluten bread, which should contain not less than four per cent of nitrogen.

Butter.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Butter -----	2	10	19	11	42
August 1, 1912, to August 1, 1913— Butter -----		2		5	7
August 1, 1913, to July 1, 1914— Butter -----	1	3		2	6
Totals, 1912-1914 -----	1	5		7	13

As stated before, the State Dairy Bureau has special charge of the enforcement of the Dairy Act, and, therefore, conducts examinations of milk, butter and cheese. At the same time, samples of butter and dairy products have been submitted to the State Laboratory by inspectors and state institutions. Thirteen samples have been thus submitted. No adulterations, as such, were found. It is true that the percentage of fat in two samples was low, being less than 82 per cent, but this figure is still in excess of that called for by the state law—namely, 80 per cent. Several samples were found to be short weight, with the result that successful court prosecutions were conducted. In this connection, it is very encouraging to be able to state that very little short-weight butter is to be found on the California markets today.

Cereals and Cereal Products.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Cereals -----	8	1	-----	27	36
August 1, 1912, to August 1, 1913— Cereals -----	-----	-----	-----	7	7
August 1, 1913, to July 1, 1914— Cereals -----	-----	-----	-----	14	14
Totals, 1912-1914 -----	-----	-----	-----	21	21

As indicated by the above, twenty-one samples of different cereals were examined, with the result that they were all found to be in conformity with the state law. Owing to the result of state inspection and the cooperation of the manufacturers, very few cereals of poor quality are to be found throughout the State. There are, however, a few stores in small places where the stock of cereals is kept too long, with the result that they become contaminated with weevils or other insects, and are thus rendered unfit for human consumption.

Cheese.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1912, to August 1, 1913— Cheese -----	-----	1	-----	-----	1
August 1, 1913, to July 1, 1914— Cheese -----	-----	1	-----	1	2
Totals, 1912-1914 -----	-----	2	-----	1	3

Only three samples of cheese were submitted, again due to the fact that the State Dairy Bureau has this matter under its jurisdiction. There was nothing objectionable with the samples, except that in one case the label was incomplete because the guaranty legend did not indicate a serial number, as the law requires, and in another the word "type" did not appear on the label.

Chocolate and Cocoa.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Chocolate and cocoa			5	10	15
August 1, 1912, to August 1, 1913— Chocolate and cocoa		1	15	3	19
August 1, 1913, to July 1, 1914— Chocolate and cocoa	1		11	6	18
Totals, 1912-1914	1	1	26	9	37

It will be noted from an inspection of the foregoing table that thirty-seven samples of chocolate and cocoa were examined during the period covered by this report. Of these, twenty-eight were found to be in violation of the law, the main infringement being that the substance was labeled "chocolate" when analysis indicated that the label should have been cocoa, or in some cases, a mixture of chocolate and cocoa. The same condition of affairs exists now with reference to this product, as indicated in the last report. It must be thoroughly understood, as stated previously, that there is nothing objectionable in any way to cocoa as a beverage. For many it is far more suitable than chocolate, in that the cocoa contains less fat than does the chocolate. At the same time, the cocoa is cheaper than the chocolate, and for that reason continued inspection and analysis is necessary to protect both the honest manufacturer and the consumer.

Coffee.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Coffee	8		1	24	33
August 1, 1912, to August 1, 1913— Coffee			3	116	119
August 1, 1913, to July 1, 1914— Coffee			1	41	42
Totals, 1912-1914			4	157	161

One hundred and sixty-one samples of coffee have been tested at the laboratory during the past biennial period. Of these by far the larger portion consisted of samples submitted by state institutions to ascertain whether or not they met the required specifications. In very few instances were any infringements found, and these were due mainly to the presence of chicory in the coffee, such not being indicated on the label.

Six samples of coffee extracts, so called, were submitted to the laboratory by inspectors for examination. These, in the main, represent very old goods, which were manufactured previous to the passage of the food law. They are illustrations of the practice of a good many country grocers, who still retain on their shelves goods which should have been removed years ago. The examination of these extracts show that they are both adulterated and mislabeled, in that they contain no caffeine. Extract of coffee should contain more caffeine than is found in coffee itself.

Coffee Substitutes.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1912, to July 1, 1914— Coffee substitutes -----	-----	4	-----	27	31

The infringements of the food law in connection with coffee substitutes lies mainly in the exaggerated statements concerning the nutritive value of these products. For those who find coffee injurious, coffee substitutes are to be recommended, but those using such should be familiar with the fact that there is very little nutriment in the decoctions made from the cereal compounds. Very little nutriment originally contained in any of the cereals is dissolved by treatment with water. If, however, the coffee substitutes contain fruits, sugars, etc., naturally these will appear in the preparations when made. It can be safely said though that the main nourishment in these coffee substitutes lies in the cream or milk and sugar used. The hygienic value of a hot drink is not here discussed; it is merely a question of nutritive value of these coffee substitutes. In this connection it should also be said that coffee or tea, as such, carry no nutriment, but possess the stimulating effect which for some may be injurious, and for others not.

Mixtures, Coffee, Etc.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1912, to July 1, 1914— Coffee, mixtures, etc.-----	-----	-----	1	1	2

There is no objection to the manufacture and sale of such mixtures, provided they are properly labeled, and in this connection it should be said that the labels should plainly and prominently indicate the mixture contained in the package. When such is done there is no infringement whatever, and for many a mixture of coffee and chicory is preferred to plain coffee; but the chicory being much cheaper than coffee, emphasizes from a pecuniary standpoint the necessity of proper labeling.

Colors.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Colors -----	27	14	-----	49	90
August 1, 1912, to August 1, 1913— Colors -----	2	-----	-----	2	4
August 1, 1913, to July 1, 1914— Colors -----	-----	-----	-----	1	1
Totals, 1912-1914 -----	2	-----	-----	3	5

The United States Department of Agriculture still allows the use of artificial colors in food and food products, provided the use of such colors is indicated on the label, in accordance with the Food Inspection Decisions of the Department. The colors which are allowed are indicated in Food Inspection Decisions 76 and 77. These colors are expensive, and in consequence thereof there are on the market many cheaper colors which are sold to dealers. The dealer, however, has protection if he will be careful to require of the manufacturer or jobber a guaranty properly worded.

Condiments.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Catsup -----	-----	43	-----	22	65
Condiments, miscellaneous -----	4	53	1	50	108
Pickles -----	3	38	-----	37	78
Prepared mustard -----	61	5	1	27	94
Salad dressing -----	-----	4	-----	4	8
Sauce, miscellaneous -----	1	7	1	17	26
Sauce, Worcestershire -----	1	2	-----	13	16
Totals -----	70	152	3	170	295
August 1, 1912, to August 1, 1913— Catsup -----	-----	5	-----	9	14
Condiments, miscellaneous -----	-----	-----	-----	3	3
Mustard, prepared -----	-----	1	-----	1	2
Pickles -----	-----	1	-----	1	2
Sauce, Grau's -----	-----	2	-----	1	3
Sauce, Worcestershire -----	-----	1	-----	1	2
Totals -----	-----	10	-----	16	26
August 1, 1913, to July 1, 1914— Catsup -----	-----	2	-----	13	15
Chow chow -----	-----	-----	-----	1	1
Horseradish -----	-----	-----	-----	2	2
Mayonnaise -----	-----	-----	-----	2	2
Mustard -----	-----	2	-----	2	4
Pickles -----	1	1	-----	4	6
Relishes -----	-----	-----	-----	2	2
Sauces -----	1	1	-----	5	7
Tomato puree -----	-----	-----	-----	2	2
Apple butter -----	-----	-----	-----	1	1
Totals -----	2	6	-----	34	42
Totals, 1912-1914 -----	2	16	-----	50	68

It is very encouraging to report that the number of adulterated and misbranded sauces and condiments is far less than was the case two years ago. Each year the percentage of sauces conforming to the law is greater. For the period covered from January, 1908, to August, 1912, upwards of 50 per cent of the samples examined were found to be in violation of the law. During the past year less than 20 per cent of the samples tested were found to be objectionable, and of these the main infringement was mislabeling; the percentage of actual adulteration being less than 5 per cent.

Confectionery.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Confectionery -----	11	35	2	122	170
August 1, 1912, to August 1, 1913— Confectionery -----		5		19	24
August 1, 1913, to July 1, 1914— Confectionery -----	2			7	9
Totals, 1912-1914 -----	2	5		26	33

Of the thirty-three samples of candy examined only seven infringements were noted. Of these but two could be placed in the adulterated class. Many of the colors and flavors which are used in candy are artificial, but are allowed by law, and it should be said to the credit of the candy manufacturers that they are, as a class, cooperating with the Board of Health in the matter of properly labeling candies containing artificial colors and flavors.

Crackers.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Crackers -----				2	2
August 1, 1912, to July 1, 1914— Crackers* -----					

*None received.

Cream.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Cream -----	2	1		6	9
August 1, 1912, to August 1, 1913— Cream -----				4	4
August 1, 1913, to July 1, 1914— Cream -----				2	2
Totals, 1912-1914 -----				6	6

Very few samples of cream were analyzed, such examinations as were made being incidental to the inspection of restaurants. There was nothing objectionable found with the samples submitted.

Eggs.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Eggs -----	1	89	2	30	122
August 1, 1912, to August 1, 1913— Eggs -----	6	21	-----	28	55
August 1, 1913, to July 1, 1914— Eggs -----	2	8	-----	18	28
Totals, 1912 to 1914-----	8	29	-----	46	83

The tabulated data published in the previous report showed that practically 75 per cent of the eggs examined were mislabeled, in that they were labeled "fresh" when they were either old or cold storage. The figures submitted for this report would indicate a considerable improvement in this direction, as less than one third of the samples examined were found to be misbranded. It is to be hoped that this improvement will continue. Since the publication of the last report, the cold storage law has gone into effect, regulating the sale of foods under cold storage, including eggs and butter. The wording with reference to these two articles of food is as follows:

The term "cold stored" as used in this act shall be construed to mean the keeping of "articles of food," excepting eggs and butter, in "cold storage" for a period exceeding thirty days; *provided, however,* that when the term "cold stored" is used in connection with eggs and butter, it shall mean the keeping of these "articles of food" in "cold storage" for any length of time whatever. The term "articles of food" as used in this act shall be construed to mean and include fresh meat, and fresh meat products (except in process of manufacture), fresh fruit and vegetables, fish, shellfish, game, poultry, eggs, butter and cheese.

Egg Substitutes.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1913, to July 1, 1914— Egg substitutes -----	-----	-----	1	3	4

Seven samples of egg substitutes were received at the laboratory, the examination of which resulted as above indicated.

It may be said in discussing this article that if a material is to be used as a substitute for egg it should have to some extent the food value of the egg. It is well known that eggs are one of the best foods for man, and from the standpoint of nutrition an ordinary baking powder, with a little extra starch or flour and with one tenth per cent or so of albumen cannot be called, under any circumstances, a substitute for eggs. Such substitutes, it would seem, are nothing more or less than baking powders, and it will be noticed that the label generally states, "No baking powder required when this is used." Naturally not, because two doses of baking powder are not required for one cake.

It may be said, from the legal standpoint, in view of the fact that such labels often state, "the powder is not made from eggs," that there is no objection, but it would appear that the word "substitute" implies and involves a material, in the case of eggs, having the food value equal to that of eggs, or approximating that of eggs—otherwise, how is it a sub-

stitute? Eggs are used in baking for the purpose of increasing the food value and palatability, as much as for the mechanical effect. Again, when eggs are used, baking powder is also used in nine cases out of ten, and in ten cases out of ten by the best class of housewives and housekeepers.

In this connection, it is of interest to note that the Department of Agriculture has issued a circular of information with reference to this subject, as follows:

The Department of Agriculture has recently received letters from a number of persons who desire to place a product on the market under the name "Egg Powder" or "Egg Substitute." These designations would undoubtedly lead the ordinary purchaser to believe the product either to be made from eggs or to have the effect of eggs in baking. In reality, the product is nothing but a baking powder containing a considerable excess of ground rice as a filler and colored yellow with powdered tumeric.

The Food and Drugs Act prohibits the sale of food products under false or misleading names and as it is evident that a product of this kind cannot be regarded in any way as a substitute for eggs in baking, its sale as an egg powder or egg substitute is not sanctioned by the department.

Extracts.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912—					
Lemon	6	31	107	126	270
Vanilla	5	23	32	123	183
Strawberry	1	7	3	9	20
Orange			2		2
Pineapple			2	1	3
Cherry			2		2
Banana			1		1
Raspberry		16	3	8	27
Peppermint		1	4		5
Miscellaneous	4	20	2	28	54
Totals	16	98	158	295	567
August 1, 1912, to August 1, 1913—					
Lemon	2	6	9	28	45
Vanilla		1	3	14	18
Jamaica ginger			2	1	3
Essence of peppermint			1		1
Coffee extract			1		1
Orange extract			3		3
Pineapple extract		1	1		2
Strawberry extract				1	1
Miscellaneous		1		4	5
Totals	2	9	20	48	79
August 1, 1913, to July 1, 1914—					
Lemon		7	4	17	28
Vanilla		2	2	9	13
Jamaica ginger	1		6	1	8
Essence of peppermint		2	1	4	7
Coffee extract			3	1	4
Orange extract			2		2
Pineapple extract			2		2
Raspberry extract			1	1	2
Strawberry extract			2		2
Miscellaneous			1	2	3
Totals	1	11	24	35	71
Totals, 1912-1914	3	20	44	83	150

An examination of the foregoing table would convey the impression that during the past biennial period little improvement had been made

in the quality of the extracts which are placed on the California market. This is not in accordance with the facts of the case. There is a decided improvement with reference to the output of these products. The data represents the examination of samples submitted, but does not cover the inspection of samples on the market. There has been great advance in the matter of labeling extracts, which advance is not apparent in the above table. The inspectors, in taking up samples of these extracts, exercise a certain amount of discretion in collecting samples which they really suspect require examination. Therefore, while the per cent of nonconformity with the law is practically as great as is shown by figures for previous years, there is, however, in accordance with the foregoing, actual improvement in these matters. It is very encouraging to note that the sale of dilute extracts is prohibited in this State, unless such dilute extracts are properly labeled. This action is taken in accordance with the advice received from the Bureau of Chemistry, as indicated by the statement quoted below.

The infringements are similar to those reported previously: For lemon extracts, low content of oil and artificial color; for vanilla extracts, the presence of coumarin and vanillin not reported on label; for essence of peppermint, low content of oil; for Jamaica ginger, dilute in every respect, the label not indicating such dilution; for pineapple and banana extracts, artificial colors and flavors not indicated on the label.

The board is of the opinion that sub-standard extracts should bear a plain statement on the label to show their actual strength, some such phrase as one half strength, or one fourth strength, etc. This statement of strength should so appear on the package in color and background that it will be as clearly legible as the main portion of the label.

Fish, Shellfish, Etc.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Fish -----	7	9	-----	61	77
August 1, 1912, to August 1, 1913— Fish -----		3	-----	15	18
August 1, 1913, to July 1, 1914— Fish -----	1	-----	-----	2	3
Totals, 1912-1914 -----	1	3	-----	17	21

The main infringements found in the examination of the samples of fish here recorded were due to the use of benzoate of soda as a preservative, such use not being indicated on the label. In one case, however, the fish was found to be decomposed, putrid, and unfit for human consumption. More extensive investigation of samples of dried fish is hardly called for, in view of the fact that these enter very largely into interstate commerce, and, therefore, the federal laboratories control the inspection and examination of all such foods and food products.

Flour.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Flour -----	3	11	1	85	100
August 1, 1912, to August 1, 1913— Flour -----				72	72
August 1, 1913, to July 1, 1914— Flour -----				56	56
Totals, 1912-1914 -----				128	128

One hundred and twenty-eight samples of flour were submitted to the laboratory. By far the larger number of these samples were sent from state institutions, representing their deliveries for consumption at the respective institutions.

The specifications for flour to be delivered to the state institutions call for a gluten (protein) content of not less than 10 per cent. Nineteen samples were found to be below the requirements in this respect, in that the content of gluten was less than 10 per cent, the minimum being 7.86 per cent. It must be remembered, however, that such flours, while not meeting the specifications of the state institutions, still cannot be considered as adulterated, mislabeled, or misbranded within the meaning of the California Pure Food Act. The standard for flour under this act is as follows:

Flour is the fine, clean, sound product made by bolting wheat meal, and contains not more than thirteen and one half (13.5) per cent of moisture, not less than one and twenty-five hundredths (1.25) per cent of nitrogen, not more than one (1) per cent of ash, and not more than fifty hundredths (0.50) per cent of fiber.

It is, therefore, seen that even the flour which rated the lowest in protein (7.86) is still above the state standard, as indicated.

Fruit.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Fruit -----		7	2	25	34
August 1, 1912, to August 1, 1913— Fruit -----	2	3		11	16
August 1, 1913, to August 1, 1914— Fruit -----	1			12	13
Totals, 1912-1914 -----	3	3		28	29

The samples of fruits examined consist of frozen lemons, frozen oranges, and dried fruits. The only infringements found were in the cases of the lemons and oranges, which were badly frozen and should not have been exposed or offered for sale. It should be stated, to the credit of the lemon and orange growers, that they use their best effort to prevent the use of frozen fruit by the consumer, and in this matter cooperated very heartily with the State Board of Health.

Honey.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Honey		4	10	34	48
August 1, 1912, to August 1, 1913— Honey				5	5
August 1, 1913, to July 1, 1914— Honey				4	4
Totals, 1912-1914				9	9

While only a few samples of honey were examined during the past two years a very large number were inspected, with the result that only those which were suspected of being adulterated or misbranded were submitted to the laboratory by the inspectors. The analytical data shows that even in these cases the inspector was mistaken, in that none of the samples tested evidenced any infringements of the law.

Ice Cream.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Ice cream	18	8	18	170	214
August 1, 1912, to August 1, 1913— Ice cream		5	10	84	99
August 1, 1913, to July 1, 1914— Ice cream		2		18	20
Totals, 1912-1914		7	10	102	119

One hundred and seventeen samples of ice cream were examined, with the result that only ten were found to be adulterated, in that the percentage of fat was below the standard of 12 per cent, two samples examined showing less than 6 per cent of butter fat.

Ice.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1912, to July 1, 1914— Ice				7	7

The examination of ice above reported was made at the request of the President of the State Board of Health, with the object of detecting any pollution which might be present. It was feared that the pollution of ice was more or less responsible for some of the typhoid fever cases existing in the bay region.

Official samples were secured by an inspector of the State Food and Drug Laboratory. Each sample of ice was brought to the laboratory as a

large cake. A portion of the inner part was taken. The pieces were rinsed with sterile water and were allowed to melt in a sterile container. The sample thus procured was examined according to the standard methods of water analysis of the American Public Health Association. The bacterial count of organisms which developed on agar plates incubated at 37 degrees was determined in each instance and tests were made in all cases for the presence of colon bacilli. It is encouraging to state that in all cases the test for colon bacilli was negative.

The chemical examinations of the different samples showed no pollution.

Jams and Jellies.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Jams and jellies.....	19	27	1	78	125
August 1, 1912, to August 1, 1913— Jams and jellies.....		1	2	12	15
August 1, 1913, to July 1, 1914— Jams and jellies.....		3	1	27	31
Totals, 1912-1914		4	3	39	46

It will be noticed that of the forty-six samples tested but seven were found to be in any way objectionable in the eyes of the law, the infringements consisting of the substitution of a cheaper jelly or jam than the one stated on the label, in most cases the cheaper jelly being apple.

Lard.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Lard	5	1		9	15
August 1, 1912, to August 1, 1913— Lard			1	2	3
August 1, 1913, to July 1, 1914— Lard				2	2
Totals, 1912-1914			1	4	5

A comprehensive examination of lards, meat, and meat food products in general is undertaken by the Bureau of Animal Industry, which maintains a well equipped laboratory in San Francisco. Nearly all the lards that are sold in this State are manufactured by establishments which are under federal inspection. It is therefore not necessary that the State Food and Drug Laboratory devote much attention to this food product. Five samples only were submitted, with the result that one was found adulterated, in that it contained 4 per cent of foreign fats.

Liquors.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Liquors	5	7	5	30	47
August 1, 1912, to August 1, 1913— Liquors		2	6	13	21
August 1, 1913, to July 1, 1914— Liquors	1	4	8	10	23
Totals, 1912-1914	1	6	14	23	44

The infringements in connection with liquors consist in the main of brandies and whiskies being sold or offered for sale containing less than the required amount of alcohol, the standard for whisky being 40 per cent by volume of alcohol. Samples of whisky have been examined showing but 32 per cent of this ingredient. Another infringement is the substitution of port wine for cordials. Another form of infringement of the law is in the matter of labeling, in that the label would seem to indicate that the article is of foreign production, whereas in truth and in fact it is made within the state limits. This fact should be indicated on the label.

Meats.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912—					
Meats, frankfurter sausage	13	7	5	15	40
Meats, bologna sausage	11	6	1	12	30
Meats, pork sausage	29	7	33	49	118
Meats, chopped	154	1	1	203	359
Meats, canned	8	1		74	83
Meats, sausage salami	3			8	11
Meats, chicken, cold storage		5		1	6
Beef extract				1	1
Meats, miscellaneous	4	3	3	8	18
Totals	222	30	43	371	666
August 1, 1912, to August 1, 1913—					
Meats, chopped	17			46	63
Meats, pork sausage	2	1	50	36	89
Meats, canned				2	2
Meats, bologna sausage		7		8	15
Meats, frankfurter sausage	1	15	1	14	31
Meats, miscellaneous		4		5	9
Totals	20	27	51	111	209
August 1, 1913, to July 1, 1914—					
Meats, chopped	17	1		46	64
Meats, pork sausage	3	2	4	26	35
Meats, bologna sausage				3	3
Meats, frankfurter sausage		1		2	3
Meats, chicken tamale				4	4
Meats, miscellaneous	1	1		3	5
Totals	21	5	4	84	114
Totals, 1912-1914	41	32	55	195	323

The above table indicates very markedly the necessity of continued and stringent inspection of meat and meat food products. Out of 323

samples examined about one third were found to be either adulterated or mislabeled. Unfortunately the adulterations still consist in the addition to the meat of sulfites, the use of which is prohibited by the State Board of Health in meat and meat food products.

As stated previously, benzoate of soda may be used, provided the amount used and the use of the same is properly stated on the label or on a placard or sign properly worded and prominently displayed in the store where such prepared meat is offered for sale. In a previous report reference was made to the use by butchers of certain compounds containing benzoate of soda and bearing a guaranty legend and serial number. It must be again emphasized that if a butcher uses such a compound, containing benzoate of soda, he must so indicate such use by the sign just referred to. The preparation sold to the butcher merely acts as a carrier for the benzoate of soda, and because the label on a package of such a preparation contains a guaranty legend the butcher is not relieved of the responsibility of displaying the proper label or sign.

There still appears to be a misunderstanding in the minds of some butchers regarding the use of cereals in sausage or chopped meat. As has been stated in previous reports, the law fully countenances such admixture, but the label or placard must plainly and properly inform the purchaser that such meat or meat food product contains cereal. The name of the cereal need not be given.

Milk (Fresh).

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Milk	18	3	19	76	116
August 1, 1912, to August 1, 1913— Milk		4	5	18	27
August 1, 1913, to July 1, 1914— Milk			3	5	8
Totals, 1912-1914		4	8	23	35

The extensive inspection and examination of milk by the State Dairy Bureau makes it unnecessary for the State Food and Drug Laboratory to devote much time and attention to this food, important as it is. About thirteen samples only were submitted in connection with the inspection of restaurants, hotels, etc. Of these, eight were found to be below standard, in that the fat content was less than 3 per cent.

Four samples of milk were submitted to the laboratory labeled as certified milk. These, upon examination, were found not to be certified milk, in that the milk was not produced in accordance with the state law covering certified milks. Those in question were ordinary milks improperly labeled.

Buttermilk, Dry.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1912, to August 1, 1913— Dry buttermilk				1	1

A sample of dry buttermilk was examined, with the result that it was found to be true to name and fully met the standards for such a food product.

Milk, Evaporated.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Evaporated milk	15		1	65	81
August 1, 1912, to August 1, 1913— Evaporated milk	2	1	2	37	43
August 1, 1913, to July 1, 1914— Evaporated milk			12	8	20
Totals, 1912-1914	2	1	14	45	63

With reference to the examination of evaporated milk—that is, unsweetened condensed milk—it must be said that there is still sold on the California markets samples of this food product which do not meet the requirements of Food Inspection Decision 131, which requires that the total solids shall not be less than 26.5 per cent, or the fat not less than 7.8 per cent, or the sum of the total solids and of fat, not less than 34.3 per cent. The infringement in a very few of the samples examined was the fat content being below the legal requirements. The total solids in some cases did not reach 24.5 per cent. In those with a fat content of above 8 per cent the total solids, plus the fat content, did not amount to more than 32.5 per cent, whereas the standard is 34.3 per cent. It may also be said in this connection that a large number of samples showed that the requirement 34.3 per cent for the sum of the total solids, plus the fat, was not an excessive figure, in that the figures for such samples in some cases reached as high as 38.6 per cent, others 36.7 per cent, and others 37.3 per cent, etc.

Miscellaneous Materials.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912—					
Parafo				3	3
Pork and beans				1	1
Rusk, Holland		1			1
Totals		1		4	5
August 1, 1913, to July 1, 1914—					
Pumpkin seed				1	1
Bird seed				1	1
Totals				2	2

Two samples of pumpkin and bird seed were submitted respectively to the laboratory. Upon examination, neither of these showed any violation.

Oils, Edible.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912—					
Oils, edible			6	23	29
August 1, 1912, to August 1, 1913—					
Oils, edible		1		22	23
August 1, 1913, to July 1, 1914—					
Oils, edible				7	7
Totals, 1912-1914		1		29	30

The data submitted for olive oils in the last report shows that there was no adulteration of olive oil found. During the period covered by this report thirty samples of olive oil were tested, with the result that no adulteration was found. There was only one case of misbranding, and that was as to locality, etc. There have been complaints made to the laboratory to the effect that olive oil on the market is adulterated, but upon careful investigation of each complaint and an examination of a sample of oil collected as result of such complaint no evidences of violations were found. It may be truly said that the olive oils as found on the market are pure. It is true there are a large number of different varieties of olive oil, no two being alike with reference to taste, color, or general appearance. If a consumer has been accustomed to one brand of oil made from one variety of olives and then changes to another brand, which is decidedly different in color and taste, there is a natural inference on the part of the consumer that such oil is not pure.

There is also a great difference in color and taste between the imported olive oil and the California olive oil, but, so far as examinations have been made, the imported is as pure as is the California.

Pastes.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Pastes -----	1	10	5	34	50
August 1, 1912, to August 1, 1913— Pastes -----		5	4	10	19
August 1, 1913, to July 1, 1914— Pastes -----		2	9	13	24
Totals, 1912-1914 -----		7	13	23	43

Forty-three samples of pastes, which include macaroni, vermicelli, noodles, etc., were submitted by inspectors and state institutions to the laboratory for examination and analysis. The result of the tests indicates that a little less than 50 per cent were in violation of the law. These violations are, in the main, of two classes: (1) the coloring of macaroni, vermicelli, etc., and the label on the package not indicating such additional color, (2) the selling of pastes labeled egg noodles, which in fact contain very little, if any, egg, whereas genuine egg noodles contain as much as or more than one and one half eggs per pound of flour. It is to be regretted that the Department of Agriculture, Bureau of Chemistry, has not yet issued any standards in this respect. What is needed for the best work is a standard indicating the number of eggs per pound of flour which should be used in the manufacture of egg noodles. The number of eggs incorporated in the noodles should correspond very closely to that customarily used by the housewife when making this product.

Pastry Fillers and Cake Icings.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1912, to August 1, 1913— Cake icings, etc.-----	3				3
August 1, 1913, to July 1, 1914— Cake icings, etc.-----	1	2		1	4
Totals, 1912-1914 -----	4	2		1	7

Seven samples of pastry fillers and cake icings have been examined, the main infringements being misleading statements on the labels concerning the value of these pastry fillers and cake icings as compared with egg.

Preservatives.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Preservatives		1		5	6
August 1, 1912, to August 1, 1913— Preservatives				5	5
August 1, 1913, to July 1, 1914— Preservatives				2	2
Totals, 1912-1914				7	7

Under this heading it must not be inferred from the data here submitted that preservatives are allowed in food and food products. The data merely indicates that the preserving compounds examined were permissible under the law, in that they contain either sodium benzoate, saltpeter, or harmless compounds not prohibited by the food law.

Rice.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Rice		11	6	30	47
August 1, 1912, to August 1, 1913— Rice		2		3	5
August 1, 1913, to July 1, 1914— Rice				11	11
Totals, 1912-1914		2		14	16

The inspection of the rice, as sold or offered for sale by the dealers throughout the State, shows, with the exception of a very few cases, this product to be properly labeled—that is, if the rice is coated or polished the label so indicates. The polished rice has not the same nutritive value as the unpolished, but, like the golden yellow dried fruit, presents a better appearance to the consumer, and therefore has a ready sale.

Sago and Tapioca.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Sago and tapioca	9			4	13
August 1, 1912, to August 1, 1913— Sago and tapioca				4	4
August 1, 1913, to July 1, 1914— Sago and tapioca				2	2
Totals, 1912-1914				6	6

During the biennial period, 1912 to 1914, but six samples of sago and tapioca were examined. These showed no evidences whatever of adulteration, mislabeling, or misbranding. As these articles enter largely into interstate commerce in original packages, the federal government is also inspecting and examining such products periodically.

Salt.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Salt				2	2
August 1, 1912, to August 1, 1913— Salt		3		15	18
August 1, 1913, to July 1, 1914— Salt				3	3
Totals, 1912-1914		3		18	21

Of the twenty-one samples of table salt which were tested at the laboratory, a large number were collected officially by the inspectors, the remainder being submitted by state institutions representing the supplies furnished them. Misbranding was found to occur in three cases due to incorrect declaration of place of manufacture and extravagant claims as to the quality of the products. As far as the purity is concerned, they all proved to be of very high grade and thoroughly satisfactory for either table purposes or dairy use.

Soapbark Preparations and Foam Producers.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1913, to July 1, 1914— Soapbark	4			1	5

Five samples of foam producers were examined with the result that only one was found not to contain saponin. The use of saponin is to be discouraged in the foam preparations. There are other compounds which are equally as good and do not contain this injurious ingredient.

Soups, Canned.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1906, to August 1, 1912— Soups, canned				6	6
August 1, 1912, to August 1, 1913— Soups, canned*					
August 1, 1913, to July 1, 1914— Soups, canned				1	1

*None received.

The State Laboratory has not examined canned soups or canned meats to any extent, due to the fact that these food products are manufactured by establishments which carry on interstate business. These establishments, therefore, are under federal inspection and are governed by its strict rules and regulations. Under these conditions it would be more or less a waste of time to duplicate the work carried on by the federal laboratories. More particularly is this true when it is remembered that the California law and the national law are practically identical.

Spices.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912—					
Allspice	7		10	32	49
Cayenne pepper	5		1	56	62
Cinnamon	7		2	30	39
Cloves	11		9	44	64
Curry powder				2	2
Ginger	3		3	26	32
Mace	5		8	23	36
Marjoram	6		2	3	11
Mustard	11	1	8	36	56
Nutmeg	1		2	31	34
Pepper, black	16		10	74	100
Pepper, white	5		4	47	56
Sage	1			12	13
Savory				7	7
Thyme	3		1	7	11
Miscellaneous	2		3	15	20
Totals	83	1	63	445	592
August 1, 1912, to August 1, 1913—					
Allspice			1	3	4
Cayenne pepper		2		4	6
Cinnamon				4	4
Cloves		1	1	8	10
Ginger				6	6
Mace		2		1	3
Meat seasoning				1	1
Mustard			1	14	15
Nutmeg				2	2
Paprika				1	1
Pepper, black			1	13	14
Pepper, white				4	4
Sage				3	3
Totals		5	4	64	73
August 1, 1913, to July 1, 1914—					
Allspice				5	5
Cayenne pepper	1		2	5	8
Cinnamon	1			3	4
Cloves	1		1	7	9
Ginger				5	5
Mace		1		4	5
Miscellaneous seasoning				2	2
Mustard				10	10
Nutmeg				2	2
Paprika	2			2	4
Black pepper				9	9
White pepper				3	3
Totals	5	1	3	57	66

An inspection of the figures in the above table will indicate a marked improvement in the quality and purity of the spices. It will be noticed that there are very few violations recorded for the past two years. It may be said that practically all of the old spices are off the market and that the stock found in the stores of the country merchants are of good quality and properly labeled. An exception, perhaps, to this may be found in mace. Bombay mace, a variety having very little value as a spice, is frequently substituted for true mace or mixed with true mace. This substitution should not be practiced unless the label clearly indicates this fact.

Starch.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1912, to August 1, 1913— Starches				4	4
August 1, 1913, to July 1, 1914— Starches				6	6
Totals, 1912-1914				10	10

The data here recorded for starch was obtained by testing ten samples of this product as submitted by the different State Hospitals. Specifications were in some cases for wheat starch, in other cases, potato starch, etc. The samples submitted corresponded to the labels and met the specifications required. It might be said in this connection that probably in the future there will be a much more extended use of starch than at present. This is emphasized by the following extract from a publication by the United States Department of Agriculture:

Potato, arrowroot, and probably tapioca and sago starch pastes are not made more easily digestible by long continued cooking. On the other hand, the cereal starches are made more easily digestible by long cooking, though the change occurs very slowly and perhaps the increased digestibility is not sufficiently great to justify the trouble, under ordinary circumstances at least, for separated starch such as is used in cookery. However, in the case of starch still inclosed in cellulose cells, as in many starchy foods, the long continued cooking may be necessary. The commercial preparations of corn starch require 30 to 40 minutes' cooking because of the improvement in flavor which results.

Skin formation as well as lumps should be avoided in cooking starch—the latter contain raw starch, the former reverted amyloextrin, and both are very slow of digestion.

The selection of potato starch instead of corn or wheat starch for thickening sauces, in accordance with the custom of French cooks, is rational, since it contains no rose amylose and so forms a clearer and more digestible sauce, and since it does not require 40 minutes' boiling for improvement in flavor, as is the case with corn starch.

Sugars.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912— Sugars	3	3	8	23	37
August 1, 1912, to August 1, 1913— Sugars	1		1	9	11
August 1, 1913, to July 1, 1914— Sugars			1	14	15
Totals, 1912-1914	1		2	23	26

The examination of sugars did not reveal any adulteration in the sugars as such. The infringements noted were in connection with compounds containing sugar and acid prepared for making lemonade. In one instance, the label indicated lemon and citric acid, whereas tartaric acid was found. In two other samples, the sugar was artificially colored without such fact being indicated on the label.

Syrups.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912—					
Syrups, table -----	8	16	29	76	129
Syrups, flavoring -----	3	89	21	60	173
Totals -----	11	105	50	136	302
August 1, 1912, to August 1, 1913—					
Syrups, table -----	2	4	2	16	24
Syrups, flavoring -----		8	2	9	19
Totals -----	2	12	4	25	43
Sugars -----			1	14	15
August 1, 1913, to July 1, 1914—					
Syrups, table -----		1	4	9	14
Syrups, flavoring -----		4	4	2	10
Totals -----		5	8	11	24
Totals, 1912-1914 -----	2	17	12	36	67

Sixty-seven samples of syrups were examined during the biennial period covered by this report. The data shows that there is still a very large percentage of mislabeling in connection with these foods, the chief infringement being that the syrups were of a lower grade than that indicated by the label. There were some cases of misbranding with reference to name and address of manufacture.

Tea.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
August 1, 1912, to August 1, 1913—					
Tea -----	1			90	91
August 1, 1913, to July 1, 1914—					
Tea -----				45	45
Totals, 1912-1914 -----	1			135	136

The examinations of tea were undertaken as part of the cooperative work between the State Board of Health and the Board of Control, which has been previously referred to. The one sample which was adulterated, as indicated by the table, was not submitted from a state institution but was collected by an inspector. The tea was found to be colored with Prussian blue, which is in violation of the law.

Canned Vegetables.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	
January 1, 1908, to August 1, 1912— Vegetables, canned		3	2	6	11
August 1, 1912, to August 1, 1913— Vegetables, canned	2	1		19	22
August 1, 1913, to July 1, 1914— Vegetables, canned	33	1		18	52
Totals, 1912-1914	35	2		37	74

It will be noticed that seventy-four samples of canned vegetables have been examined in the past two years. The majority of these samples were canned peas colored with copper sulfate. The sale of peas and other vegetables colored with copper sulfate was prohibited by the issuance from the United States Department of Agriculture, of Food Inspection Decisions 148 and 149. These decisions were issued as a result of the work of the referee board, the conclusions of this board being as follows:

(a) Copper salts used in the coloring of vegetables as in commercial practice can not be said to reduce or lower or injuriously affect the quality or strength of such vegetables as far as the food value is concerned;

(b) Copper salts used in the greening of vegetables may have the effect of concealing inferiority, inasmuch as the bright green color imparted to the vegetables simulates a state of freshness they may not have possessed before treatment;

(c) In attempting to define a large daily quantity of copper regard must be had to the maximum amount of greened vegetables which might be consumed daily. A daily dose of 100 grams of coppered peas or beans, which are the most highly colored vegetables in the market, would not ordinarily contain more than 100 to 150 milligrams of copper. Such a bulk of greened vegetables is so large, however, that it would hardly be chosen as a part of a diet for many days in succession. Any amount of copper above 150 milligrams daily may, therefore, be considered excessive in practice. A small quantity is that amount which in the ordinary use of vegetables may be consumed over longer periods. From this point of view 10 to 12 milligrams of copper may be regarded as the upper limit of a small quantity.

It appears from our investigations that, in certain directions, even such small quantities of copper may have a deleterious action and must be considered injurious to health.

The Food and Drugs Act of June 30, 1906, provides that a food is adulterated "if it contain any added poisonous or other added deleterious ingredient which may render such article injurious to health." The act also provides that a food is adulterated "if it be . . . colored . . . in a manner whereby damage or inferiority is concealed." It is apparent from the findings of the referee board that all foods greened with copper salts are positively adulterated under the first above quoted provision of the law, and that in certain cases foods may be adulterated under the second above quoted provision.

Food Inspection Decision 149 reads:

Paragraph 4 of Food Inspection Decision 148 is hereby modified to read as follows: "The secretary of agriculture, therefore, will regard as adulterated, under the Food and Drugs Act, foods greened with copper salts which, on and after January 1, 1913, are offered for entry into the United States or are manufactured or offered for sale in the District of Columbia or the territories, or which, on and after May 1, 1913, are shipped in interstate commerce."

This decision became automatically part of the California law, in accordance with section 3 of the state law. The inspectors of the State Board of Health warned the retailers concerning this matter carefully, but in many instances such warnings were not heeded. There followed, therefore, a collection of official samples and the dealers in question were

cited to appear before the State Board. The figures indicating the work of the last year proves that this activity was necessary, in that out of fifty-one samples collected thirty-three were found adulterated, that is, the peas were colored with copper sulfate. It is to be hoped that the next report will show that no more peas colored with copper sulfate are being sold.

Vinegars.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912—					
Vinegars, cider -----	1	14	58	245	318
Vinegars, malt -----		6	3	3	12
Vinegars, wine -----	1	3	15	23	42
Vinegars, distilled -----	4	12	3	42	61
Vinegars, sugar -----				2	2
Vinegars, miscellaneous -----	3	1	1	15	20
Totals -----	9	36	80	330	455
August 1, 1912, to August 1, 1913—					
Vinegars, cider -----		2	3	41	46
Vinegars, wine -----			1	4	5
Totals -----		2	4	45	51
August 1, 1913, to July 1, 1914—					
Vinegars, cider -----	1		13	37	51
Vinegars, wine -----			4	5	9
Totals -----	1		17	42	60
Totals, 1912-1914 -----	1	2	21	87	111

The necessity for continued inspection and examination of vinegars is well emphasized by the table here presented. During the past two years, sixty samples of vinegar were examined, with the result that seventeen were found to be adulterated and misbranded, the adulterations in the main being due to the substitution of some other vinegar for cider vinegar, the label not indicating such substitution.

Water.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
January 1, 1908, to August 1, 1912—					
Water -----		53		10	63
August 1, 1912, to August 1, 1913—					
Water -----			2	2	4
August 1, 1913, to July 1, 1914—					
Water -----		3		25	28
Totals, 1912-1914 -----		3	2	27	32

Twenty-eight samples of waters were tested at the State Laboratory from August, 1912, to July, 1914. The samples submitted included those from city water supplies, mineral waters, well waters, etc. The infringements noted, three in number, were due to false statements, on the labels, concerning either the origin or the character of the water.

MISCELLANEOUS MATERIALS.**Blankets.**

The examination of blankets was undertaken as part of the cooperative work between the State Board of Health and the State Board of Control in the matter of examining supplies furnished to state institutions. Seventy-one samples of blankets were submitted during the biennial period covered by this report. Of these, twenty-one failed to meet the specifications in that they contained upwards of thirty per cent of cotton, such percentages ranging from thirty-four to seventy-two. It is understood that for certain purposes, a cotton blanket is to be preferred to a woolen blanket, but when specifications call for a blanket containing not more than thirty per cent of cotton, the blankets submitted should be in accordance with such data.

Coal.

Seven samples of coal were submitted from state institutions with the result that all were found to meet specifications. The samples represented first class articles.

Cutlery.

The laboratory has received eleven samples of cutlery—knives, forks, and spoons—from state institutions. The examinations indicated that only one was deficient in the amount of nickel called for in the specifications, in that the sample contained six per cent, whereas the specifications call for not less than ten.

Lubricating Oils.

Forty samples of oil were submitted by different state institutions to the laboratory for examination, the results of the chemical tests showing thirty to meet the specifications, while ten were deficient in that the flash point was lower than it should have been, indicating a poorer quality of oil.

Soaps.

The laboratory has examined eight different samples of soaps, soft and hard, including washing and toilet soaps, with the result that all were found to fully meet the requirements specified by the State Board of Control.

Factory Wastes.

Eighteen samples of factory wastes were examined during the past two years. Of these thirteen were submitted by the State Fish and Game Commission. The analyses were made to determine the presence or absence of appreciable amounts of crude oil, lampblack, and tar. These wastes were discharged into San Francisco Bay and therefore it was necessary to conduct the examinations just referred to in order to determine whether or not the state law, which prohibits the depositing of certain materials injurious to fish into the bay, was being violated. All samples examined were found to contain either lampblack or crude petroleum or both.

Sewage.

During the first year of the biennial period, nine samples of sewage were examined, representing cooperative work between the city of Stockton and the State Board of Control. This was to determine the chemical composition of the sewage of the city of Stockton in connection with a comprehensive examination of such sewage by the American Engineering Corporation of San Francisco, C. E. Grunsky, president.

Reagents.

Another small piece of cooperative work in connection with chemical analyses, was the testing of seven samples of reagents used in water analysis for the department of health of the city of Stockton. Four of these were found to meet the requirements, while three did not.

SUMMARY OF MISCELLANEOUS MATERIALS.
1912-13.

Material	Number not complying with specifications	Number complying with specifications	Total
Blankets -----	10	27	37
Coal -----		7	7
Cutlery -----	1	10	11
Oils, mineral and lubricating -----	10	13	23
Reagents -----	*4	3	7
Soaps -----		8	8
Totals -----	25	68	93

*Below standard.

1913-14.

Blankets -----	11	23	34
Oils, mineral and lubricating -----			17
Totals -----	11	23	51

Wastes and Sewages.
1912-13.

Sewages -----			9
Wastes -----			15

1913-14.

Wastes -----			3
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GENERAL SUMMARY MISCELLANEOUS MATERIALS.
1912-14.

Totals -----	36	135	171
Per cent -----	21.06	78.94	100

Drugs.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Drugs Act	Total
January 1, 1908, to August 1, 1912—					
Alcohol				9	9
Alum	1			2	3
Arnica		11		2	13
Asafoetida		1	1		2
Benzoin, tincture		4			4
Bay rum		1		2	3
Camphorated oil	12			15	27
Camphor, spirits of		18		2	20
Citrate of magnesia				7	7
Colic remedies, etc.		13		1	14
Consumption cures		3			3
Corn remedies		2		2	4
Cough remedies, cold cures		69		9	78
Cream of tartar				4	4
Epsom salt, etc.				11	11
Fluid extracts, etc.		3		5	8
Ginger, Jamaica		15	1	2	18
Green soap, tincture		2		1	3
Headache remedies		105		14	119
Hydrochloric acid				3	3
Hydrogen, peroxide				3	3
Iodine, tincture		11		2	13
Kidney cures		9			9
Licorice root				5	5
Lime water	2				2
Liniments		3		2	5
Lung remedies		8			8
Medicinal herbs	38			78	116
Miscellaneous	8	115	4	72	199
Nux vomica				3	3
Paregoric		18		4	22
Peppermint	1	7	1		9
Sulfur	7			7	14
Sweet spirits of nitre		12			12
Tinctures, miscellaneous		10	4	9	23
Witch hazel		12		5	17
Total drugs	69	452	11	281	813
Per cent	8.5	55.6	1.3	34.6	100
August 1, 1912, to August 1, 1913—					
Aconite tincture				2	2
Alcohol				2	2
Borax				1	1
Castoria				1	1
Cough remedies				2	2
Cream tartar				1	1
Essence of Jamaica ginger			1		1
Headache remedies		1		2	3
Liniment				1	1
Eucalyptus oil				3	3
Malt tonic		1		1	2
Turpentine	1			3	4
Witch hazel	1				1
Miscellaneous			1	2	3
Totals	2	2	2	21	27
Per cent	7.41	7.41	7.41	77.77	100

Drugs—Continued.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Drugs Act	Total
August 1, 1913, to July 1, 1914—					
Aloes, Soc., U. S. P.				2	2
Ammonia, aromatic spirits of			27	3	30
Arnica, tincture of				1	1
Asafoetida			2		2
Asperin tablets				1	1
Benzoin				2	2
Calisaya, elixir				1	1
Camphor, spirits of	3		8	8	19
Camphorated oil			4	4	8
Cardamon compound, tincture				1	1
Cinchona, tincture of				3	3
Corn remedies		4		6	10
Cough remedies				1	1
Ginger, essence of Jamaica			6		6
Hair tonics	1	1			2
Horehound drops				1	1
Iodine, tincture of			2	1	3
Iron, tincture of				1	1
Laxative bitters		1			1
Leaves, buchu			2	2	4
Lime water			1	8	9
Linseed meal				1	1
Magnesia, solution citrate of				10	10
Miscellaneous		3		9	12
Nitre, sweet spirits of			26	7	33
Nux vomica, tincture				3	3
Rubbing oil				1	1
Paregoric		1		2	3
Peppermint, essence of			1		1
Pepsin				14	14
Peroxide of hydrogen				1	1
Potash, chlorate of				2	2
Rheumatic powder				1	1
Salts, epsom			6	24	30
Tonics		1	2	1	4
Wart solvents		2			2
Zinc oxide				1	1
Totals	4	13	87	123	227
Per cent	1.8	5.7	38.2	54.3	100

The reports of the visits of drug inspectors during the last year would indicate that the conditions are greatly improved. The improvement may be noted along several different lines.

(1) With reference to labeling: The labels for nearly all the drugs are now in accordance with the provisions of the California Drugs Act. It is true there are exceptions.

(2) The crude drugs, such as herbs, etc., are in far better condition at present writing than was instanced two years ago. Statements have been published to the effect that a large proportion of the herbs now on sale in the drug stores are wormy and unfit for use. The reports of the drug inspectors made to the State Laboratory would certainly appear to refute absolutely such statements.

(3) Old proprietary remedies and new, are labeled in accordance with the provisions of the drugs acts, both state and federal.

The tables here presented, while indicating the numbers of drugs analyzed and those which conform to the law, do not represent the total amount of work which has been accomplished along this line. A con-

siderable number of alkaloidal drugs have been tested, but the examinations were not completed in time to be included in this report. It may be said, though, in advance, that the results of such examinations indicate that these important drugs conform to the usually accepted standards for such remedies. It has been stated by some that these drugs, now sold in California, are not up to standard, but considerably below. Examinations made at the State Laboratory do not confirm such statements. The data in connection with the examination of drugs included in the last report and summarized in the above tables, indicate that over one hundred samples of headache remedies were examined, with the result that nearly all were found to be mislabeled. As a result of this activity shown by the laboratory in the examination of these remedies, it is a difficult matter for the inspector to find any of these remedies now mislabeled. The mislabeling consisted in the failure of the manufacturer to indicate on the label the use of certain drugs, in the preparation of the remedy, such as phenacetin, acetanilide, etc.

An inspection of the figures, showing the percentages of infringements, etc., for the last biennial period and those heretofore recorded, indicates that the percentage of drugs conforming to the law is increased 100 per cent. The data for the previous report shows that only about 25 per cent of the drugs examined conformed in all respects to the law. The corresponding figure for the last biennial period is in excess of 50 per cent. The improvement, however, is really greater than that indicated by the figures in the table, for the reason that the inspectors exercise a certain amount of discretion in the collection of samples and submit to the laboratory only those which are suspected of being adulterated or misbranded. In former years samples were submitted without the use of such discretion in order to ascertain the exact condition of the different remedies and drugs as sold.

A large number of samples of spiritus ætheris nitrosi and spiritus ammoniæ have been collected and examined. The results are not ready for presentation at this time. There has been considerable criticism made in connection with this investigation on the ground that both sweet spirit of nitre and aromatic spirit ammonia were of such volatile nature that it was impossible to have them retain their strength, in accordance with the standard, for any length of time. The answer to such criticisms is that these are two very important drugs, and, while they are of a volatile nature, the loss will not be as great as is claimed by any means, if the drug is prepared and kept in accordance with the directions given in the United States Pharmacopœia. Such preparations should not be kept for any length of time. New batches should be made up periodically.

The report of the Food and Drug Commissioner of Michigan for 1913, contains results of an investigation on the deterioration of spirits of nitrous ether. The details of this report are exceedingly interesting and important and it therefore appears that it would not be out of order to reprint the data here.

Spirits of nitrous ether or commonly called spirits of nitre, is defined by the 8th revision of the United States Pharmacopœia as "An alcoholic solution of ethyl nitrite yielding, when freshly prepared and tested by the method given in the U.S.P., not less than 4 per cent of the ethyl nitrite.

That this 4 per cent of ethyl nitrite is easily lost under improper conditions is a matter of common knowledge among those who have anything to do with this preparation. Reports of various state departments charged with the enforcement of the

drug laws show that this preparation has caused more or less trouble. It appears that the fault lies mainly in the manner in which it is stored. In the state of Michigan the records of the laboratory show that during the year of 1912 over 75 per cent of the samples examined were found to fall below the required standard of the U.S.P. When some of the manufacturers of these preparations were asked to explain why their spirits of nitrous ether did not conform to the U.S.P. their reply was that it is impossible to keep such a volatile preparation for any length of time and have it of standard strength. However, investigation into the manner in which such pharmacists stored their preparations generally disclosed the fact that they were not keeping it in strict accordance with the U.S.P. directions; only making a half-hearted attempt, if making any at all, to store it as their pharmacopœia told them to.

In order that we might enlighten these people, this laboratory started an experiment some time ago, to determine the keeping qualities, so to speak, of spirits of nitrous ether. The plan of the experiment was to duplicate as nearly as possible conditions as may be found in any medium class drug store, by selecting bottles of various sizes and colors, by storing in a semi-dark place and at a temperature that could not be called cool. Thus it will be seen that the directions of the U.S.P. were not followed to the letter but were only attempted and carried out in an incomplete manner.

The experiment was conducted as follows: On March 5, 1911, a quantity of spirits of nitrous ether was made up and placed in seven bottles. The bottles used were ordinary half pound and one pound bottles, two of which were of amber glass, one green glass, and four flint glass bottles, such as may be found in any drug store. Each bottle when filled was securely fitted with an ordinary cork stopper. The bottle was then thoroughly shaken and an assay made of its contents.

The bottles were again securely stoppered and placed in a semi-dark place in a room adjoining the working laboratory, the temperature of which is about the same as that in the laboratory, viz., 65 degrees—75 degrees F. At the end of three months the bottles were removed and the contents assayed. This procedure was continued for a period of fifteen months, assaying the contents of the bottles at intervals of three months each, except the time between the fourth and fifth assays, when a period of four months elapsed, and the results tabulated in the following table:

TABLE I.

Size of bottle	Kind amber	First assay, March 5, 1911. Time of filling	Second assay, June 5, 1911	Third assay, Sept. 5, 1911	Fourth assay, Nov. 5, 1911	Fifth assay, March 5, 1912	Sixth assay, June 5, 1912
1. 12 ounce -----	Amber	3.98	3.95	3.83	3.73	3.70	3.56
2. 12 ounce -----	Amber	3.99	3.86	3.73	3.61	3.53	3.45
3. 16 ounce -----	Green	3.95	3.88	3.81	3.71	3.66	3.60
4. 8 ounce -----	Flint	3.97	3.68	3.52	2.14	2.14	1.88
5. 8 ounce -----	Flint	3.94	3.77	3.42	3.41	1.25	-----
6. 16 ounce -----	Flint	3.95	3.72	3.42	3.42	3.20	2.94
7. 8 ounce -----	Flint	3.92	3.39	3.39	3.10	3.10	2.89

TABLE II.

Loss at end of—	2 months. 7 samples	6 months. 7 samples	9 months. 7 samples	12 months. 7 samples	15 months. 6 samples
Maximum -----	0.53	0.53	1.83	2.69	2.09
Minimum -----	0.08	0.14	0.25	0.28	0.35
Average -----	0.207	0.37	0.65	1.01	0.90

TABLE III.

Loss of samples stored in colored bottles at the end of—	3 months	6 months	9 months	12 months	15 months
Maximum -----	0.13	0.26	0.38	0.46	0.54
Minimum -----	0.03	0.14	0.25	0.28	0.35
Average -----	0.07	0.18	0.29	0.34	0.44

A study of the table will show that for the first six months the samples retained their strength very well, the maximum loss under these conditions being only .53 per cent with an average for the whole of only .37 per cent. The greatest loss during the entire time seems to be in the samples stored in the flint glass bottles, although with the exception of sample 4 the remainder kept fairly well for the first nine months. During the latter part of the experiment, however, the samples in the flint glass bottles decreased considerably, while those in the amber and green colored bottles decreased in strength only a small amount in the whole fifteen months and the decrease was quite regular; the maximum being but .54 per cent with an average of .44 per cent. It would therefore appear that spirits of nitrous ether, when manufactured properly so that it will contain 4 per cent ethyl nitrite when freshly prepared and stored in small dark colored bottles in a cool place will remain standard strength for a long period of time. The pharmacist should make up this preparation in such quantity that the whole can be disposed of in a period of six months. He then should have no fear that he is not dispensing a U.S.P. article all the time.

This laboratory is conducting a similar set of experiments which we confidently expect will confirm the results of the Michigan laboratory. This laboratory is also studying the deterioration of aromatic spirits of ammonia. The full details of this investigation will be published in the next report and also in The Monthly Bulletin of the State Board of Health as soon as the investigation is completed. As far as the experiment has progressed, seven weeks, it would appear that during the first ten days there was a loss of less than one per cent, and during the last five weeks there has been practically no loss whatever. In other words, the strength has remained constant and the loss for the seven weeks of the experiment has therefore been less than one per cent. This is greatly in contrast with the results of the examination of samples collected by inspectors, the majority of which show a loss of from 25 to 75 per cent. Such deficiencies are due to carelessness in the manufacture and keeping of the drug, in other words, not following out the directions of the United States Pharmacopœia.

SUMMARY OF ANALYTICAL WORK.

August 1, 1912, to July 1, 1914.

The results of the chemical and microscopical work of the State Laboratory for 1912-1914 are summarized in the subjoined tables:

A. FOODS AND FOOD PRODUCTS.

1912-1913.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
Baking powder		2		23	25
Baking soda				4	4
Beer		2		2	4
Beverages		6	9	20	35
Breads			7	3	10
Butter		2	2	3	7
Cereals				7	7
Cheese		1			1
Chocolate and cocoa		1	15	3	19
Coffee			3	116	119
Coffee compounds			1	1	2
Coffee substitutes		4		27	31
Colors	2			2	4
Condiments—					
Catsup		5		9	14
Worcestershire sauce		1		1	2
Pickles		1		1	2
Mustard preparation		1		1	2
Grau's sauces		2		1	3
Miscellaneous				3	3
Confectionery		5		19	24
Corn				2	2
Cream				4	4
Eggs	6	21		28	55
Egg substitutes	3				3
Extracts—flavoring	2	9	20	48	79
Fish		3		15	18
Flour				72	72
Fruit	2	3		11	16
Honey				5	5
Ice cream		5	10	82	97
Ice				7	7
Jams and jellies		1	2	12	15
Lard			1	2	3
Liquors		2	6	13	21
Meats—					
Chopped	17			46	63
Pork sausage	2	1	50	36	89
Canned				2	2
Bologna sausage		7		8	15
Frankfurter sausage	1	15	1	14	31
Miscellaneous		4		5	9
Milk			5	18	23
Milk, certified		4			4
Buttermilk, dry				1	1
Milk, evaporated	2	1	2	38	43
Oils, edible		1		22	23
Pastes		5	4	10	19
Preservatives				5	5
Rice		2		3	5
Sago and tapioca				4	4
Salt		3		15	18
Spices		5	4	64	73
Starch				4	4
Sugars	1		1	9	11
Syrups, table	2	4	2	16	24
Syrups, flavoring		8	2	9	19
Tea	1			90	91
Vegetables	2	1		17	20
Vinegars—					
Older		2	3	41	46
Wine			1	4	5
Water			2	2	4
Total foods	43	140	153	1,030	1,366
Per cent	3.1	10.2	11.2	75.5	100

B. DRUGS.
 1912-1913.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Drugs Act	Total
Aconite tincture				2	2
Alcohol				2	2
Borax				1	1
Castoria				1	1
Cough remedies				2	2
Cream tartar				1	1
Essence of Jamaica ginger			1		1
Headache remedies		1		2	3
Liniment				1	1
Eucalyptus oil				3	3
Malt tonic		1		1	2
Turpentine	1			3	4
Witch hazel	1				1
Miscellaneous			1	2	3
Total drugs	2	2	2	21	27
Per cent	7.41	7.41	7.41	77.77	100

C. GENERAL SUMMARY.
 1912-1913.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food and Drugs Act	Total
Total food samples	43	140	153	1,030	1,366
Total drug samples	2	2	2	21	27
Grand total	45	142	155	1,051	1,393
Per cent	3.2	10.2	11.1	75.5	100

D. FOODS AND FOOD PRODUCTS.
 1913-1914.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
Baking powder		1		7	8
Baking soda				2	2
Beverages	1	1	4	5	11
Breads		1	3	1	5
Butter	1	3		2	6
Cereals and cereal products				14	14
Cheese		1		1	2
Chocolate and cocoa	1		11	6	18
Coffee			1	41	42
Colors				1	1
Condiments—					
Catsup		2		13	15
Chow chow				1	1
Horseradish				2	2
Mayonnaise				2	2
Mustard		2		2	4
Pickles	1	1		4	6
Relishes				2	2
Sauces	1	1		5	7
Tomato puree				2	2
Apple butter				1	1

D. FOODS AND FOOD PRODUCTS—Continued.
1913-1914.

Material	Number adulterated-	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food Act	Total
Confectionery	2			7	9
Corn				1	1
Cream				2	2
Eggs	2	8		18	28
Egg substitutes			1	3	4
Extracts—flavoring	1	11	24	35	71
Fish, shellfish, etc.	1			2	3
Flour		3		53	56
Fruit	1			12	13
Honey				4	4
Ice cream		2		18	20
Jams and jellies		3	1	27	31
Lard				2	2
Liquors	1	4	8	10	23
Meats—					
Chopped	17	1		46	64
Pork sausage	3	2	4	26	35
Bologna sausage				3	3
Frankfurter sausage		1		2	3
Chicken tamale				4	4
Miscellaneous	1	1		3	5
Milk			3	5	8
Milk, evaporated			12	8	20
Miscellaneous materials				2	2
Oils, edible				7	7
Pastes		2	9	13	24
Pastry filler	1	2		1	4
Preservatives				2	2
Rice				11	11
Sago and tapioca				2	2
Salt				3	3
Soapbark	4			1	5
Soups, canned				1	1
Spices	5	1	3	57	66
Starch				6	6
Sugars			1	14	15
Syrups—					
Table		1	4	9	14
Flavoring		4	4	2	10
Tea				45	45
Vegetables	33	1		17	51
Vinegars—					
Cider	1		13	37	51
Wine			4	5	9
Water		3		5	8
Total foods	78	63	110	645	896
Per cent	8.7	7.0	12.3	72.0	100

E. DRUGS.
1913-1914.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Drugs Act	Total
Aloes, Soc., U. S. P.				2	2
Aromatic spirits of ammonia			27	3	30
Arnica, tincture of				1	1
Asafetida			2		2
Asperin tablets				1	1
Benzoin				2	2
Calisaya, elixir				1	1
Camphor, spirits of	3		8		19
Camphorated oil			4	4	8
Cardamon compound, tincture				1	1
Cinchona, tincture of				3	3
Corn remedies		4		6	10
Cough remedies				1	1
Ginger, essence of Jamaica			6		6
Hair tonics	1	1			2
Horehound drops				1	1
Iodine, tincture of			2	1	3
Iron, tincture of				1	1
Laxative bitters		1			1
Leaves, buchu			2	2	4
Lime water			1	8	9
Linseed meal				1	1
Magnesia, solution citrate of				10	10
Miscellaneous		3		9	12
Nitre, sweet spirits of			26	7	33
Nux vomica, tincture				3	3
Rubbing oil				1	1
Paregoric		1		2	3
Peppermint, essence of			1		1
Pepsin				14	14
Peroxide of hydrogen				1	1
Potash, chlorate of				2	2
Rheumatic powder				1	1
Salts, Epsom			6	24	30
Tonics		1	2	1	4
Wart solvents		2			2
Zinc oxide				1	1
Totals	4	13	87	123	227
Per cent	1.8	5.7	38.2	54.3	100

F. SUMMARY.
1913-1914.

Material	Number adulterated	Number misbranded	Number adulterated and misbranded	Number not in violation of California Pure Food and Drugs Act	Total
Total food samples.....	78	63	110	645	896
Total drug samples.....	4	13	87	123	227
Grand total	82	76	197	768	1,123
Per cent	7.3	6.8	17.5	68.4	100

G. SUMMARY.
1912-1914.

Total food samples.....	121	203	263	1,675	2,262
Total drug samples.....	6	15	89	144	254
Grand total	127	218	352	1,819	2,516
Per cent	5.0	8.7	14.0	72.3	100

H. SUMMARY MISCELLANEOUS MATERIALS.
1912-1914.

Material	Number not complying with specifications	Number complying with specifications	Total
Totals, miscellaneous materials.....	36	135	171
Per cent	21.06	78.94	100

It is encouraging to note in connection with the general summary for 1912 to 1914, above indicated, that the percentage of samples complying with the law is 72.3, which is far higher than any corresponding figure reported since the establishment of the laboratory (see Table I). The percentage of adulteration is low and similarly, with reference to the percentage of misbranding. It is true that the percentage of adulteration and misbranding is slightly higher than that noted for the previous year. One of the main food products which has caused this increase is pork sausage, the infringement consisting of a substitution of other meats for pork and the presence of cereals not stated on the label. This was the condition of affairs in 1912 and 1913. During the following year, 1913-1914, very few cases of misbranding were noted, indicating a marked improvement in this respect. The improvement just referred to is emphasized when we repeat statements that have been made in the foregoing data to the effect that inspectors, both food and drug, exercise far greater discretion in the submitting of samples than was possible in former years.

The following table shows the percentage of adulteration and misbranding for the seven years, 1908 to 1914. It will be noted by an inspection of the figures that with the exception of the year from 1910-1911, there has been a steady decrease in the percentage of adulteration and misbranding, and therefore, an increase in the percentage of samples complying in all respects with the Food and Drugs Act.

I. GENERAL SUMMARY, 1908-1914.
Food and Drugs.

	Per cent adulterated	Per cent mis-branded	Per cent adulterated and mis-branded	Per cent complying with the law	Total
To August, 1908	20.9	9.0	13.0	57.1	100
To August, 1909	9.7	22.8	9.9	57.6	100
To August, 1910	5.9	21.1	14.6	58.2	100
To August, 1911	14.3	36.1	2.4	47.2	100
To August, 1912	4.8	15.6	12.2	67.4	100
To July, 1914	5.0	8.7	14.0	72.3	100

It might not be out of place to repeat here a paragraph mentioned in the last report.

“While it is now generally understood that the names of certain definite substances must appear on the label, there are still many other instances in which some manufacturers and dealers think that a substance that is *allowed* need not be mentioned. This is especially true of such things as benzoate of soda, permissible artificial colors and flavors, and the addition of cereal to meat food products, etc.

“It is becoming more evident every year that the cases of wilful violation of the law are very few, and that there is very little tendency to backsliding on the part of those who have once succeeded in bringing their products up to standard.”

Conclusions and Recommendations.

While, as has been stated in previous reports and also in this report, that the quality and standard of food and drugs is increasing, it is only possible to keep on improving in this direction by constant and continued field and laboratory work. Without doubt, if the laboratory was discontinued we would have on the markets in a very short time, the same kind and quality of foods and drugs which were to be found galore previous to January, 1907, and for some time later. The necessary activity, however, can not be carried on without proper funds for the employment of inspectors, chemists, etc., and for properly maintaining a laboratory. The necessary work may therefore be divided into three heads—field work, laboratory work, and office work. The following itemized statement indicates the minimum which should be allowed, not, by any means, the maximum:

	Estimate 1915- 1917
Field work—	
Eight food and drug inspectors, salary	\$23,000
Expenses of inspectors for traveling, purchasing samples, etc.	15,000
Laboratory work—	
Three analytical chemists, salary	10,600
Chemical apparatus and supplies	4,000
Laboratory help, janitor work, etc.	1,200
Office work—	
Stenographers, two	5,600
Clerk	1,200
Stationery, stamps, expressage, telephone service, etc.	1,500
Total	\$62,100

This amount, \$62,100, does not include the salary of the director or assistant to the director, as these salaries are not included in the special appropriation but are paid for as are other state salaries.

A state like California should have at the command of the State Food and Drug Laboratory at least twelve inspectors, not eight as asked for. There should be at least six chemists working in the laboratory and the office force should also be increased.

The above estimate, however, does not include any item for building. The present quarters of the State Food and Drug Laboratory are far too limited for proper or extensive work. There should be at the disposal of the bureau at least twice the laboratory space now available.

It must be repeated, and with enforced emphasis, the necessity for the carrying on of research work in a food and drug laboratory in addition to the necessary routine work incidental to the examination and analysis of samples officially submitted. There are a very large number of problems in food and drug chemistry and nutrition which should be solved by the personnel of a food laboratory, particularly when operated under the auspices of the State Board of Health. Until such work is carried on, it would not appear that the laboratory is fulfilling its best purpose.

REPORT OF BUREAU OF HYGIENIC LABORATORY.

By W. A. SAWYER, M. D., Director.

The Development of the Laboratory.

During the two years ending June 30, 1914, the number of routine bacteriological examinations performed at the State Hygienic Laboratory in the interest of the public health was 75 per cent greater than during the previous biennial period. The more expensive and time-consuming examinations increased in number at a still faster rate. For instance, the number of examinations of drinking water for pollution was doubled, and over three times as many heads of animals were examined for evidence of rabies.

The increase in the quantity of the work, while it shows a greater appreciation of the services of the laboratory by local health officials and physicians, does not represent the progress in the adaptation of the laboratory to the needs of the state so much as do the new functions. During the biennial period, by the performance of free Wassermann tests at the State Hygienic Laboratory, syphilis has at last been recognized as a very important preventable disease. Recognizing that the provisions for the control of typhoid fever are at present inadequate to give reasonable protection to a large part of the citizens of the state, the manufacture and free distribution of antityphoid vaccine was instituted, so that the individual can to a certain extent make up for the failure of protection by the public.

Although the work of the bureau has developed, it still falls far short of its proper variety and amount. The lack of workers in the field along lines of epidemiology and sanitary engineering greatly hampers the laboratory work in communicable diseases and water pollution, and renders much of the work unsatisfactory. The majority of the local health officials have insufficient time and not enough special training in public health to act helpfully as our local representatives. This is due principally to the ridiculously small salaries offered. Until health officers are full-time public servants with special training we can not expect a marked decrease in preventable disease, but the state can do a great deal through maintaining marked efficiency and high scientific standards in the laboratories and field forces of this bureau. The most urgent lines of development will be outlined under the separate headings of this report.

Division of Biological Examinations.

In the Division of Biological Examinations is done the greater part of the present work of the bureau. At the main laboratory in Berkeley and its three branches in Los Angeles, Fresno, and Sacramento, various diagnostic examinations are made which are of importance in the control of communicable disease. The work is strictly limited to examinations of public health interest, and tests of value only to individuals are not performed, not even in response to the plea of charity. The laboratory has only one purpose, the protection of the public health.

The work of the division includes the examination of tissue for anthrax, of swabs and cultures for diphtheria, of smears of pus for gonococcus infection, of feces for hookworm disease, of blood for ma-

laria, of tissue for plague, of brain tissue for rabies, of blood serum for syphilis (Wassermann test), of sputum for tuberculosis, of blood for typhoid fever (Widal test), and occasionally of other specimens which have a distinct bearing on public health. The staff of the laboratory are not permitted to work privately for fees, and all the examinations at the laboratory are made without charge.

In addition to the diagnostic tests, many bacteriological examinations of public water supplies for pollution are performed with the purpose of protecting against water-borne diseases, especially typhoid fever.

The laboratory is increasing its usefulness to our state institutions. It performs tests of their water supplies on request. A considerable number of the routine diagnostic tests are performed for state institutions, especially the infirmary of the University of California. Wassermann tests for syphilis have been performed for many of the prisoners in the state prisons at Folsom and San Quentin. Examinations for anthrax and rabies are performed for the State Veterinarian and his deputies. These very necessary examinations would involve considerable expense if performed by private bacteriologists.

Comparison with the Work of Preceding Biennial Periods.

In Table I there has been brought together the statistics for the several biennial periods since the beginning of the laboratory on July 1, 1905. Special attention is called to the growth of the work of the last biennial period over that of the preceding one. There was an increase of 75 per cent in the total number of tests in the Division of Biological Examinations. Every kind of examination shared in the increase.

Results of Examinations by Months and Diseases.

In Table II are brought together the numbers of examinations made in the division during the various months of the biennial period ending June 30, 1914. The number of examinations giving positive results are shown as well as the total numbers.

TABLE I.
Increase in Number of Examinations, July 1, 1905, to June 30, 1914.

	Anthrax	Diphtheria	Gonococcus infection	Hook-worm	Malaria	Plague	Rabies	Syphilis	Tuberculosis	Typhoid	Water pollution	Miscellaneous	Total
First year of the laboratory, July 1, 1905, to June 30, 1909		330				1			54	32	67	96	1,580
Biennial period, July 1, 1906, to June 30, 1908		1,231				13			255	185	57	504	2,245
Biennial period, July 1, 1908, to June 30, 1910		2,798			58		37		497	330	95	145	3,955
Biennial period, July 1, 1910, to June 30, 1912	27	2,267	46	9	88	5	243		716	667	136	69	4,273
Biennial period, July 1, 1912, to June 30, 1914	85	3,337	353	15	194	7	770	142	908	1,242	309	150	7,512
Totals	112	9,958	399	24	340	26	1,050	142	2,430	2,456	664	964	18,565

¹One year only.

²Exclusive of 5,009 diphtheria examinations made in special examinations of school children in Berkeley, Oroville, Hayward and Colfax.

³Exclusive of 1,844 examinations of rats from Berkeley. The expense was borne by Berkeley.

⁴Exclusive of 6,325 diphtheria examinations made in special examinations at the Southern California State Hospital.

TABLE II.
Number of Examinations and Results by Months and Diseases, July 1, 1912, to June 30, 1914.

	Anthrax		Diphtheria		Conococcus Infection		Hookworm		Malaria		Plague		Rabies		Syphilis		Tuber- culosis		Typhoid		Water pollution		Miscel- laneous		Total		
	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Total	
1912																											
July	1	4	29	63	4	10	1	1	5	17			12	17			11	33	6	44	2	8	1	4	71	201	
August		5	50	175	7	17		4	9			19	29				5	88	10	100	1	6		6	91	384	
September	3	4	51	241	5	10			3	14	1	15	19				7	34	11	47	17	21		7	116	490	
October	1	1	42	129	6	13	2	2	1	13	1	19	24				12	43	16	57	8	21	2	5	107	309	
November	3	5	43	149	7	11			3	6		30	33				14	42	12	46	2	6	2	4	114	302	
December		1	110	289	4	12			1	6		86	37				7	34	2	29	7	18	1	9	167	365	
1913																											
January		4	121	246	4	8	2	2		3		23	23				6	82	7	23	2	2		2	160	345	
February		3	75	173	2	8	1	1		2		28	28				10	24	3	21	3	3		8	125	333	
March		2	66	127	6	20		1	1	5		33	36				9	30	4	22	3	11	1	5	114	260	
April		1	39	92	5	14			3	9		27	28				10	36	10	35	3	3		3	93	228	
May		3	24	92	11	16			1	8		22	29				24	47	10	42	1	3	2	2	96	243	
June		1	3	29	90	13	22	1	1	12	1	23	30				5	23	6	37	6	13		5	85	242	
July		1	6	18	67	13	30		2	11		23	27				11	36	10	54	6	6		1	78	237	
August		1	4	5	28	22	29		1	8		24	29				6	31	12	88				7	1	72	221
September		6	8	18	45	10	26		2	8	1	21	22				9	35	7	62	5	9	1	5	80	221	
October		2	4	62	180	9	23			12		39	43				4	29	15	52	6	18	6	12	142	324	
November		8	73	172	12	20	2	2	9	9	2	21	25				8	30	8	42	5	8	3	6	131	324	
December		7	50	162	19	21	1	1	3	3		44	51				12	39	6	26	1	7	1	4	132	320	
1914																											
January		1	50	153	11	19			3	3		48	60				9	37	4	23	1	2		9	128	307	
February			68	129	4	5			1	4		36	50				7	46	4	16	11	14	4	12	135	276	
March		5	77	190	3	6	2	2	1	8		31	39				16	57	4	22	1	12		3	135	335	
April		8	56	154	1	6			3	11		14	35				35	15	54	192	15	34	4	4	169	527	
May		2	42	112	2	6	2	2	6	6		7	23				8	7	49	19	66	12	31	3	10	100	348
June		1	58	180		1			2	7	1	12	30				14	44	15	101	19	41	5	8	149	492	
Totals	20	86	1255	3337	180	363	15	15	35	194	3	606	770	48	142	238	908	246	1242	128	309	48	160	2790	7612		

Anthrax.

Examinations are frequently made for anthrax in animals, and rarely for the same disease in man. A single specimen is sometimes sent for the determination of the nature of a disease which is killing hundreds of animals. Whenever anthrax is found to be present in the tissues of an animal, the State Veterinarian is given a carbon copy of the laboratory report, so that the information may have its greatest usefulness in the control of this disease.

Diphtheria.

This disease continues to present a serious problem in the state. The laboratory distributes a mailing outfit for sending to the laboratory swabs from the noses and throats of patients or carriers. The results of the examinations are communicated to the physician and also to the local health officer, who has charge of instituting and raising the quarantine required by law. The cultures are examined at the main laboratory at Berkeley and also at the three branches.

Gonococcus Infections.

There has been an increase in the number of specimens examined for the presence of the gonococcus. When the health authorities will give this disease the attention which is indicated by its prevalence and destructiveness, the diagnosis of gonorrhoea and ophthalmia neonatorum will cease to be in so many cases a matter of opinion, and the laboratory will receive many times the present number of specimens.

Hookworm.

The laboratory stands ready to examine specimens of feces for hookworm and to furnish containers in which samples can be mailed.

Malaria.

Special mailing cases containing two glass slides and directions for securing samples of blood are furnished to physicians. The number of examinations from the districts of California in which malaria is prevalent are few, as many physicians are satisfied with the diagnosis of malaria based on symptoms alone.

Bubonic Plague.

During the biennial period three cases of plague in man were investigated and were proved to be bubonic plague. All of the cases were undoubtedly contracted from endemic plague existing among the ground squirrels, and possibly other rodents, of the region in which the cases appeared.

Case 1.—A Japanese woman, 24 years old, living on a berry farm two miles north of San Juan in San Benito County, became sick on June 4, 1913. On June 6th she was first seen by a physician. At that time there was marked prostration, high fever (104° F.), and a painful left femoral bubo. Her condition became steadily worse and she died on June 13th. On the day before her death a severe sore throat developed accompanied by dyspnoea. On this day the case was seen by the county health officer. The bubo was operated upon and some of the glandular tissue was sent to the State Hygienic Laboratory. Examination at the laboratory showed bacilli having the appearance of the plague bacillus. A guinea-pig was inoculated. The animal died in six days, and the plague bacillus was isolated from the typical lesions and identified. A

parallel laboratory examination in the laboratory of the United States Public Health Service in San Francisco gave the same results. An investigation was made in the field by the director of the State Hygienic Laboratory.

A hunter employed by the United States Public Health Service shot a plague-infected squirrel in San Benito County, six miles northeast from Hollister, on June 9, 1913, showing that the disease existed in ground squirrels in the county at the time of the human case.

Case 2.—A man, J. W. K., 55 years old, entered the Contra Costa County Hospital at Martinez on September 8, 1913. He had been working on a ranch near Pittsburg, Contra Costa County. His illness became rapidly worse. He was delirious on September 9th and, on the following day, a femoral bubo with considerable local edema developed. He died in the morning of September 11th. The diagnosis of plague was made by the attending physician. A local investigation was made by Surgeon Currie of the United States Public Health Service. Material from the bubo was obtained for examination at the State Hygienic Laboratory.

At the State Hygienic Laboratory plague bacilli were demonstrated and definitely identified by microscopical examination, cultural tests, and animal inoculation. A similar investigation in the laboratory of the United States Public Health Service gave the same results.

Surgeon Currie reported that there were circumstances which pointed to infection from the rats in and about the house in which the man had slept on the ranch. The rat infection was undoubtedly secondary to the squirrel epizootic of plague which had been present for several years in Contra Costa County.

Case 3.—A man, E. W. H., 38 years old, residing in Walnut Creek, Contra Costa County, and working in San Francisco, became sick at Walnut Creek on May 17, 1914. He had a chill, high fever (104° F.), and slight delirium. On the following day the case was investigated locally by Assistant Surgeon N. E. Wayson of the United States Public Health Service. A left femoral bubo had appeared on that day. On May 23d the patient was again seen by Dr. Wayson, and material was obtained from the bubo for laboratory examination. The plague bacillus was isolated and identified at the laboratory of the United States Public Health Service. Tissues from a guinea-pig, inoculated by Dr. Wayson with a culture from the bubo, were sent to the State Hygienic Laboratory, where the plague bacillus was isolated and identified by microscopic and cultural tests and animal inoculation.

Investigation by Dr. Wayson led to the conclusion that the disease had been contracted from plague-infected ground squirrels in the vicinity of Walnut Creek, Contra Costa County. The patient recovered from the infection.

Rabies.

Taking the state as a whole, rabies (hydrophobia) in animals has increased markedly during the biennial period. In certain areas the disease has diminished while in others it made its first appearance.

The heads of animals are sent to the laboratory and the brain tissue is examined for evidence of rabies. This work is specially important, as many of the rabid dogs bite human beings, and the decision with regard to the necessity for Pasteur treatment of persons bitten by dogs often hinges on the laboratory examination. Table III gives the statistics for the examinations for rabies by months and Table IV gives the number of specimens showing positive evidence of rabies from each county.

TABLE III.
Examinations for Rabies by Months.

Month	Results of examinations				Positive diagnosis based on		Animals found positive				Persons reported bitten by positive animals.
	Positive	Negative	Inconclusive	Total	Finding of nerve bodies	Animal inoculation	Dogs	Cats	Humans	Other animals	
1912											
July	12	4	1	17	12		10		2		8
August	19	8	2	29	12	7	16	2		1 cow	13
September	15	1	3	19	12	3	15				13
October	19	4	1	24	19		17	1		1 cow	17
November	30	3		33	28	2	29	1			17
December	36	1		37	35	1	30	2	1	1 goat, 1 pig, 1 horse	20
1913											
January	22	1		23	19	3	20			1 cow, 1 horse	11
February	28			28	27	1	26		1	1 pig	21
March	33	2	1	36	33		26	3		2 cows, 1 goat, 1 horse	21
April	27	1		28	26	1	22			1 coyote, 3 cows, 1 goat	13
May	22	4	3	29	22		15	1	2	4 cows	11
June	23	7		30	23		23				12
July	23	1	3	27	23		19	3		1 horse	24
August	24	5		29	24		21	2		1 cow	17
September	21	1		22	21		19	1	1		11
October	39	4		43	38	1	33	1		1 cow, 1 horse	18
November	21	4		25	20	1	19		1	1 horse	8
December	44	7		51	44		44				24
1914											
January	48	12		60	44	4	46	1		1 cow	37
February	36	11	3	50	34	2	30	1		4 cows, 1 horse	18
March	31	5	3	39	31		29	1	1		24
April	14	20	1	35	14		14				6
May	7	17	2	26	7		7				7
June	12	16	2	30	12		10	1		1 cow	13
Totals	606	139	25	770	580	26	543	21	9	33	384

TABLE IV.
Positive Cases of Rabies by Counties.

Alameda	104
Amador	4
Butte	6
Calaveras	4
Colusa	1
Contra Costa	18
El Dorado	1
Fresno	45
Imperial	5
Kern	5
Kings	18
Los Angeles	8
Madera	2
Marin	21
Merced	8
Napa	14
Nevada	11
Placer	36
Riverside	1
Sacramento	33
San Benito	3
San Bernardino	13
San Diego	8
San Francisco	6
San Joaquin	39
San Luis Obispo	3
San Mateo	47
Santa Barbara	1
Santa Clara	66
Santa Cruz	2
Siskiyou	3
Solano	4
Sonoma	14
Stanislaus	19
Tehama	2
Tulare	18
Tuolumne	3
Ventura	1
Yolo	6
Oregon	3
Total	606

The nine human cases of rabies (shown in Table III) which were confirmed by laboratory examination of the brain tissue at the State Hygienic Laboratory, together with five other cases of human rabies which came to the attention of the laboratory staff during the biennial period, are briefly described below:

Case 1.—A girl, A. B., 6 years old, died of rabies in Los Angeles on July 15, 1912. She had been severely bitten on the right cheek by a strange dog on May 27th. No tissue was obtained for laboratory examination.

Case 2.—A man, J. J. R., about 60 years of age, died in San Francisco from rabies on July 20, 1912. He had been bitten in the left thumb by his own dog on June 18, 1912. On July 15th, this man began to show symptoms of rabies. Some of his brain tissue was inoculated into a rabbit at the State Hygienic Laboratory. The rabbit came down with rabies in 17 days and Negri bodies were found in its brain tissue.

Case 3.—A boy, F. O., 16 years old, died of rabies on July 22, 1912, in San Francisco. He had been bitten in the left hand by a strange dog 78 days before the boy showed the first symptoms of rabies on

July 19, 1912. At the State Hygienic Laboratory, rabbits were inoculated with some of the brain tissue. They developed rabies, and Negri bodies were found in their brain tissue.

Case 4.—A woman, M. J. S., 37 years old, died of rabies on November 23, 1912, in San Francisco. She had been bitten in the left hand by a stray dog two months before. At the laboratory of the San Francisco Health Department, Negri bodies were found in her brain tissue and rabbits which were inoculated with brain tissue developed rabies.

Case 5.—A boy, S. N., age 10, died of rabies in Sacramento December 9, 1912. There was no history of a bite. The symptoms began on December 6th. Portions of brain tissue were examined at the State Hygienic Laboratory. Negri bodies were found in the tissue, and rabies was transmitted to animals by inoculation with the brain tissue.

Case 6.—A girl, N. C. O., age 6, died of rabies on February 1, 1913, in San Francisco. She had been bitten by her own dog three weeks before she showed the first symptoms on January 29th. A portion of her brain tissue was examined at the State Hygienic Laboratory and Negri bodies were found. The diagnosis was also confirmed by animal inoculation.

Case 7.—A man, A. C., age 23, died of rabies on May 22, 1913, in San Francisco. He had been bitten by a dog two months before. A portion of the man's brain was examined at the State Hygienic Laboratory. Many large Negri bodies were found.

Case 8.—A girl, J. B., age 4 years, died of rabies in San Francisco May 26, 1913. She had been severely bitten under the right eye on April 25th. Within 24 hours, the Pasteur treatment was begun at the San Francisco Health Department with fresh virus from the State Hygienic Laboratory. The intensive course of treatment was given, ending May 16th. On May 20th, too soon for the establishment of a strong immunity by the treatment, the symptoms of rabies began. A portion of the brain tissue was examined at the State Hygienic Laboratory. Negri bodies were found, and rabies was produced in rabbits by inoculation with the brain tissue.

Case 9.—A man, C. R. L., about 30 years old, residing near Sebastopol in Sonoma County, died of rabies at Santa Rosa on September 17, 1913. He had been bitten in the right wrist by his own dog while hunting near Bodega Bay on August 12th. The first symptoms of rabies appeared on September 13th. Examination of his brain at the State Hygienic Laboratory revealed Negri bodies. Rabies was produced in rabbits by inoculation with the brain tissue.

Case 10.—A girl, F. I. W., aged 5½ years, died of rabies at Newcastle, Placer County, on July 25, 1913. She had been bitten in the arm by a strange dog on July 2d. The symptoms of rabies began on July 22d. There was no autopsy.

Case 11.—A Japanese man, G. K., 32 years old, died of rabies in Los Angeles on August 6, 1913. He had been bitten on the arms by a rabid dog at San Bernardino on June 30th. On August 4th he had distinct symptoms of rabies. This man had been instructed to take immediately the free Pasteur treatment furnished by the State Board of Health at Los Angeles, but he had not followed the advice. There was no autopsy.

Case 12.—A man, P. G., aged 57, died of rabies on November 15, 1913, in Placer County Hospital in Auburn, where he had been taken from his home in Lincoln, Placer County. He had been inoculated while opening the mouth of his sick dog about October 27, 1913. Symptoms began about November 11th. A portion of the brain was examined at the State Hygienic Laboratory. Numerous Negri bodies were found in the tissue. This confirmed the diagnosis of rabies.

Case 13.—A colored boy, C. B., aged 5 years, died of rabies at Onnard, Ventura County, on November 19, 1913. He had been severely bitten through the left ear by a rabid dog on September 30, 1913. Rabies in the dog was proved by examination at the State Hygienic Laboratory. The boy was sent to the southern branch of the State Hygienic Laboratory at Los Angeles for treatment, which was begun on October 5th and was completed on October 25th. It was stated that the symptoms began with "nervousness" on November 9th. There was no autopsy.

Case 14.—A boy, W. E., aged 5 years, died of rabies in Oakland on March 25, 1914. He had been severely bitten over the right eye, on the right eyelid and on the right cheek on February 11th. On the following day, intensive antirabic treatment was begun at the State Hygienic Laboratory. The treatment was finished on March 4th. On March 22d, the symptoms of rabies began with nervousness and refusal to eat. Some of the brain tissue was examined at the State Hygienic Laboratory. Negri bodies were found and rabies was transmitted by inoculation to a rabbit.

Syphilis.

In April, 1914, the State Hygienic Laboratory began making free Wassermann tests for physicians of California. The work increased during the last three months of the biennial period, reaching a total of 142 examinations. This work is very important as it recognizes the responsibility of the state for the prevalence of this preventable disease. The laboratory is permitted to make the tests only when the physician states that his patient is unable to pay the cost of a reliable test. This last regulation, while instituted chiefly to prevent an overwhelming number of specimens at the beginning, has been proved to be unnecessary. No such restriction on the basis of financial status exists in connection with any of the other laboratory examinations, and this limitation is against the general policy and spirit of the laboratory. Examinations should be made only on the basis of danger to the public health. Now that the restriction has been found to be unnecessary, I respectfully recommend to the State Board of Health that they remove it. After such action, the people will be able to see that syphilis has been recognized by the board as a disease of great public health importance. The reporting of this disease, already required by law, will become more efficient if the state takes an active part in ascertaining its extent through free laboratory examinations.

Tuberculosis.

During the biennial period, 908 examinations of sputum for tubercle bacilli were made. An outfit is furnished for sending the specimens through the mails.

Typhoid Fever.

The laboratory makes Widal tests for typhoid fever when specimens of blood are sent in the regular mailing outfits, which are furnished free to physicians. In connection with special investigations of the State Board of Health and on the written request of health officials, when the protection of the public health demands such tests, specimens of feces and urine will be examined with a view of detecting the typhoid carrier state. Blood cultures will be examined, especially when typhoid vaccination has made the Widal test inapplicable.

Water Pollution.

Samples of public water supplies are examined bacteriologically for the presence of pollution on the request of the health officials. Examinations are made only when the samples have been submitted in the sterile containers and ice box sent out by the laboratory.

The number of water examinations has increased greatly owing to the increased interest in the prevention of typhoid fever and on account of the requirements of the United States Public Health Service regarding water used for drinking purposes on interstate carriers. The work is unsatisfactory because too much emphasis is placed on a single laboratory test. It is very important that the laboratory work should supplement the field investigation of a sanitary engineer in the employ of the State Board of Health. Then the board could collect really valuable information regarding the public water supplies of the state, and could take efficient steps for the enforcement of the laws against stream pollution.

Examinations for Towns and Cities.

The 7,512 examinations performed during the biennial period were made for 394 towns and cities and their surrounding country. Cities having a population greater than 20,000 are not served, as they are expected to furnish their own free laboratory service. The work of the laboratory is more evenly distributed geographically than ever before.

In Table V will be shown the number of specimens sent from each town or city. When specimens are credited to the larger cities, which have their own laboratories, it means that physicians living in those cities submitted samples from out-of-town patients, or else that the work was done for state institutions situated within the cities.

TABLE V.
Examinations by Towns and Cities.

	July to December, 1912	January to June, 1913	July to December, 1913	January to June, 1914	Total
Acampo	1	2			3
Agnew	1	3	1	2	7
Alameda	63	73	81	47	264
Albany		15	3	10	28
Alberta				1	1
Alhambra	16	11	11	14	52
Alpaugh	1	1		2	4
Alturas	4	1	1	3	9
Alviso			1		1
Anderson		6		18	24
Angels Camp		2	1	1	4
Angiola		1			1
Antioch	4	22		9	35
Aptos			1		1
Arbuckle	4	35	6	11	56
Arcata			1		1
Aromas	1				1
Arroyo Grande				1	1
Artesia	2			17	19
Auburn	2	1	4	1	8
Azusa	1			2	3
Baird		1			1
Bairdstown				1	1
Bakersfield	13	10	12	13	48
Bangor			1		1
Banning			1		1
Bartlett Springs			3		3
Bay Point		6		2	8
Bell				2	2
Belvedere	4		1		5
Benicia	21	13	20	8	62
Berkeley	754	114	193	184	1,245
Blythe		1		6	7
Brawley			1	3	4
Brentwood				2	2
Broderick	2	1		1	4
Burbank		3	7	2	12
Burlingame	1	2	2		5
Buttonwillow	1				1
Byron				1	1
Calistoga		1		6	7
Cambria	1				1
Campbell	2		2	3	7
Campo Seco	1				1
Cedarville				1	1
Centerville	1	4	6		11
Ceres	1	2			3
Chadwick			1		1
Chico	22	23	7	43	95
Claremont	2	2	7	3	14
Clarksburg				1	1
Clippergap		1			1
Cloverdale				2	2
Clovis	9	4	1	5	19
Coalinga	6	3	3		12
Colfax	7	4	6	1	18
College City				1	1
Colma	1	1		1	3
Colton	5	15	12	9	41
Colusa	33	57	37	46	173
Compton	2	2	1	1	6
Concord	12	23	15	5	55
Copperopolis	5				5
Corcoran	22	13	7	12	54
Corning	7	1	12	8	28
Corona	6	1	3	3	13
Corte Madera		1			1
Courtland		1			1

TABLE V—Continued.
Examinations by Towns and Cities.

	July to December, 1912	January to June, 1913	July to December, 1913	January to June, 1914	Total
Covelo		1			1
Covina	8	11	4	11	34
Cowell				8	8
Coyote				1	1
Cragmont				1	1
Crockett	2		1	1	4
Crows Landing			1	1	2
Cucamonga		4	3		7
Cupertino			1		1
Cutler		1			1
Davis		1	3	5	9
Delano		1		1	2
Del Paso				3	3
Del Rey		1	2	4	7
Del Rosa				1	1
Denver				1	1
Dinuba	2		2		4
Dixon				1	1
Dos Palos	5	2	2	10	19
Downey	1				1
Drytown				1	1
Dunsmuir		1		1	2
Dutch Flat	3		2		5
Eagle Rock				1	1
East Auburn	2	2		1	5
Edenvale			1	2	3
El Bonte			1		1
El Centro	3		2	1	6
Eldridge	2				2
Elk Grove	18	28	16	28	90
El Monte	4	1			5
El Pismo			1		1
El Portal				2	2
El Segundo			2		2
Elsinore		5		79	84
Emeryville	19	13	12	8	52
Empire	1	1			1
Escalon	1				1
Escondido				1	1
Esparto		1	1		2
Etna Mills	2		5	2	9
Eureka			2	5	7
Exeter		3	2	1	6
Fairfax		2	1		3
Fairfield		1			1
Fair Oaks		2			2
Fallbrook				1	1
Farmington	1				1
Farralone			1		1
Felix				1	1
Ferndale			1	1	2
Fillmore	1			1	2
Florin		1		1	2
Floriston			1		1
Folsom			1	1	2
Forestville			2		2
Fort Bragg			26	39	65
Fortuna				2	2
Fowler	4	1	4	1	10
French Camp		2			2
Fresno	23	19	32	23	97
Fruitvale	1		2		3
Fullerton	1	1		1	3
Galt		2	1		3
Gardena	1		7		8
Garden Valley			1		1
Gazelle			1		1
Georgetown				1	1

TABLE V—Continued.
Examinations by Towns and Cities.

	July to December, 1912	January to June, 1913	July to December, 1913	January to June, 1914	Total
Gilroy				1	1
Glen Alpine	1				1
Glendale	5	11	7	8	31
Glendora				3	3
Gold Run			1		1
Gonzales	1			3	4
Grand Island			1		1
Grass Valley	1	7	52	86	146
Greenview		1	1		2
Greenville			2		2
Gridley	8	20	15	22	65
Gustine			1	3	4
Halcyon			1		1
Half Moon Bay	3	2			6
Hanford	4	10	4	181	199
Hayward	82	281	52	80	445
Healdsburg	1	3	4	3	11
Hemet	2	1			3
Hermosa Beach				1	1
Hickman		1			1
Highgrove				1	1
Highland			2	3	5
Hilt	2	3		2	7
Hollister		1	7	13	21
Hollywood				2	2
Holtville		2			2
Hoopa	8	6		2	16
Hornbrook		1			1
Huntington			1		1
Hyde Park			10	3	13
Inglewood		26	17	21	64
Ingomar	2				2
Inverness	1				1
Ione	6	4	14	7	31
Irvington	9	9	21	43	82
Irwin		3			3
Isleton	2	1			3
Jackson	25	4	4	5	38
Jamestown				4	4
Kelseyville	3		2	1	6
Kennett			2	5	7
Kerman	1	2	1	1	5
Kerto	1				1
Kingsburg		2		1	3
Knights Ferry		1			1
Lakeport		7			7
Lankershim		1		3	4
Larkspur	1			5	6
Laton	1	1			2
Lemon Cove	1				1
Lemoore				1	1
Lincoln		3	1	3	7
Linden				2	2
Lindsay	2	1	1	2	6
Live Oak	5		3	2	10
Livermore	11	5	9	6	31
Livingston			1	1	2
Lockeford		3	2		5
Lodi	1	1	4	14	20
Lompoc	3	2			5
Long Beach	1				1
Loomis		2	5	3	10
Los Altos		1			1
Los Angeles	9	1	27	69	106
Los Banos	1	4	2	6	13
Los Gatos	6	11	10	15	42
Los Molinos	1	3		3	7
Los Nietos				5	5

TABLE V—Continued.
Examinations by Towns and Cities.

	July to December, 1912	January to June, 1913	July to December, 1913	January to June, 1914	Total
Los Olivas	2				2
Lower Lake				1	1
Loyalton				1	1
Madera	2	6	4	7	19
Malaga	1				1
Manhattan Beach				7	7
Manteca	4	3	10	5	22
Maricopa	4	5	4	9	22
Mariposa		1		1	2
Martinez			1		1
Marysville	7	5	3	20	35
Maxwell	13	7	16	9	45
Mayfield		1		1	2
McCloud				1	1
McFarland			4	2	6
McKittrick			1	6	7
Merced	8	5	10	12	35
Merced Falls				1	1
Meridian	1				1
Mill Valley	11	4	2	1	18
Milpitas	1			4	5
Milton	1				1
Mission San Jose			3	1	4
Modesto	5	4		6	15
Moneta			1	4	5
Monrovia		4	1		5
Monterey				1	1
Mountain View			2		2
Napa	29	17	11	30	87
National City				1	1
Needles		1			1
Nevada City	3	8	4	8	23
Newcastle	3	7			10
Newman	3		5	14	22
Niles	3	5		8	16
Niles Canyon			2		2
Nordhoff				1	1
Norwalk	5	1		1	7
Novato			1		1
Oakdale	7	18	12	10	47
Oak Grove				1	1
Oakland	22	4	1	6	33
Oakley			1		1
Oakville			1		1
Oceano			20	22	42
Ocean Park			2	5	7
Oceanside	2	2		2	6
Ontario	4	5		2	11
Oregon		3			3
Orland	1				1
Orosi		2	2		4
Oroville	7	30	4	21	62
Oxnard			1		1
Palo Alto		14	7	2	23
Pasadena	3	1	1		5
Paskenta	1				1
Paso Robles	6	1	3		10
Patterson				1	1
Penngrove			1	1	2
Penryn			2		2
Perkins			2		2
Perris			1	1	2
Pescadero				1	1
Petaluma	2		1	4	7
Piedmont	1	1	2	2	6
Pinole		1			1
Pittsburg		1		1	2
Placerville		2	1		3

TABLE V—Continued.
Examinations by Towns and Cities.

	July to December, 1912	January to June, 1913	July to December, 1913	January to June, 1914	Total
Pleasanton	2		4	4	10
Plymouth	1		3	1	5
Pope Valley		1			1
Porterville	4	6	12	9	31
Princeton	1				1
Quincy	8		1	7	16
Raymond		1		4	5
Red Bluff	6	4		1	11
Redding		2	13	8	23
Redlands		2		8	10
Redwood City	1	4	1	1	7
Reedley		1		1	2
Represa			1	65	66
Reward			1		1
Rialto	2	1			3
Richmond	10	6	8	89	113
Rio Vista	1	1	1		3
Riverbank			1	1	2
Riverdale				1	1
Riverside	6	2	26	3	37
Rocklin	2	3	3	2	10
Rodeo				2	2
Roseville	5	12	5	1	23
Ross	2	1	3		6
Rust		8	24	16	48
Ryan				1	1
Sacramento	17	11	13	6	47
Salida			1		1
Salinas	4	1	6	3	14
San Andreas		5			5
San Anselmo	1			2	3
San Bernardino		1	14	13	28
San Diego			5		5
San Dimas	1			1	2
San Fernando	5				5
San Francisco	51	5	4	6	66
San Gabriel			2	2	4
Sanger	24	13	10	3	50
San Jacinto	4	1			5
San Jose	7	7	35	52	101
San Juan Bautista	6	1	1	2	10
San Leandro				4	4
San Luis Obispo	10	16	5		31
San Martin				1	1
San Mateo	16	9	3	5	33
San Pablo	2			1	3
San Quentin				58	58
San Rafael	6		3	2	11
Santa Ana	4			1	5
Santa Barbara		5		1	6
Santa Clara	2		3	1	6
Santa Cruz	6	12	2	4	24
Santa Margarita	1		1	1	3
Santa Maria			1		1
Santa Monica				1	1
Santa Paula	1		1		2
Santa Rosa			8		8
Saratoga			3	7	10
Sausalito	7	4	3	10	24
Sawtelle		2		1	3
Sebastopol			3	1	4
Selma		1		1	2
Sierra Madre	1	5		3	9
Sonoma	12	1	2	3	18
South Pasadena	5	1	9		15
South San Francisco	37		2		39
Spreckels		1	2		3
Stege				2	2

TABLE V—Continued.
Examinations by Towns and Cities.

	July to December, 1912	January to June, 1913	July to December, 1913	January to June, 1914	Total
St. Helena		1		5	6
Stockton	25	30	53	38	146
Strathmore				1	1
Suisun	2	4	9	5	20
Sultana	3				3
Summit			1		1
Sunnyvale	1	1	1	4	7
Sutter Creek	26	23	9	12	70
Taft	11	5	10	8	34
Tahoe		1	9		10
Tehama		2		2	4
Templeton	1	5		3	9
Terra Bella		2			2
Thermal			2		2
Thornton		1			1
Tiburon	4				4
Topanga				3	3
Tracy	9		1	4	14
Tranquility	1			1	2
Tropico	10			1	11
Truckee		1	2		3
Tulare	1	1	1		3
Tuolumne				1	1
Turlock	3	2	32	7	44
Ukiah	1	7	4	4	16
Upland	2	1		4	7
Vacaville	6	1	1	5	13
Vallejo	20	11	19	7	57
Van Nuys	4	16	9	7	36
Venando	1				1
Venice			2	2	4
Visalia	3	4	4	7	18
Vorden		1			1
Walnut Creek	1			7	8
Wasco		2	4	1	7
Waterford			1		1
Waterman			1		1
Watsonville			1	3	4
Watts				2	2
Weaverville			2	3	5
Weed	1	5	6	1	13
Wheatland		1	4	8	13
Whittier	2	81	115	27	225
Williams	20	8	14	5	47
Willows	2	4	3	1	10
Windsor				1	1
Winters	4	4	6	9	23
Woodbridge	1				1
Woodland	12	8	9	31	60
Yolo				5	5
Yosemite				1	1
Yountville		1			1
Yreka	1	1		6	8
Yuba City	2	1	6	5	14
Totals	1,979	1,601	1,647	2,285	7,512

The Branch Laboratories.

Owing to the large size of the state, it has been found necessary to maintain three branch laboratories. At these branches part-time bacteriologists examine cultures for diphtheria, sputum for tuberculosis, blood for typhoid fever, and blood smears for malaria. The branches also administer free antirabic treatment for the Division of Preventive Therapeutics. They cut down the time necessary to obtain laboratory results in those examinations whose value depends largely on prompt reports.

The Southern California Branch.

The Southern California Branch is located in Los Angeles. It serves the following counties: Imperial, Inyo, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Santa Barbara. The branch was in the charge of Dr. Stanley P. Black at 423 Auditorium Building up to the resignation of Dr. Black on January 26, 1914. On that date the work was taken over by Dr. Walter V. Brem and the branch was moved to 1209 Brockman Building.

During the biennial period 726 diagnostic examinations were made as follows: diphtheria 538, of which 200 gave positive results; gonococcus infections 2, positive 1; hookworm 2, positive 0; rabies 2, positive 2; tuberculosis 35, positive 13; typhoid 147, positive 15.

The San Joaquin Valley Branch.

The San Joaquin Valley Branch is in charge of Dr. W. W. Cross and is situated in Fresno. On June 1, 1914, the laboratory was moved from 32 Patterson Block to 710 Griffith-McKenzie Building.

The total number of tests for the biennial period was 379, divided between examinations for the different diseases as follows: anthrax 2, positive 0; diphtheria 216, positive 32; gonococcus infections 2, positive 0; hookworm 3, positive 0; malaria 3, positive 1; tuberculosis 58, positive 17; typhoid 93, positive 12; miscellaneous 2, positive 0.

The San Joaquin Valley Branch serves the following counties: Fresno, Kern, Kings, Madera, Mariposa, Merced, Stanislaus, Tulare, and Tuolumne.

The Northern California Branch.

Dr. F. F. Gundrum has charge of the Northern California Branch of the State Hygienic Laboratory at 406 Inverness Building, Sacramento. This branch does work for the following counties: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Lassen, Modoc, Mono, Nevada, Placer, Sacramento, San Joaquin, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo, and Yuba.

During the biennial period the following 1,163 examinations were made: diphtheria 615, of which 193 gave positive results; gonococcus infections 7, positive 5; hookworm 1, positive 0; malaria 59, positive 16; tuberculosis 217, positive 39; typhoid 262, positive 89; miscellaneous 2, positive 0.

The State Hygienic Laboratory in Berkeley.

In addition to doing certain kinds of examinations for the remainder of the state, the main laboratory on the campus of the University of California in Berkeley does all the kinds of examinations for the following counties: Alameda, Contra Costa, Del Norte, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, San Benito, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, and Solano.

All the water examinations, special laboratory investigations, and examinations for rabies are done in Berkeley. The greater part of the work shown in Table II was done there.

Depositories for Mailing Outfits.

The establishment of branch laboratories decidedly shortened the time between the sending of a sample to the laboratory and the receipt of the report. Few health officials or physicians, however, kept on hand a stock of fresh diphtheria culture outfits or of the various other mailing outfits sufficient for an emergency. As a result, it was frequently necessary to delay until a letter could be written and a supply could be received from the State Hygienic Laboratory in Berkeley. The absence of a proper mailing outfit has tempted many a physician to send cultures for diphtheria on old dried culture media which had long been useless, or to send infectious material through the mails in insufficient and illegal containers.

To correct these conditions the laboratory has established a system of depositories for mailing outfits in drug stores in our principal towns and smaller cities. By applying at a depository as the need arises a health official or physician may receive, without charge, mailing outfits for sending various specimens for examination. This system should save expense for the laboratory by diminishing the large number of mailing outfits sent out to individual physicians to be kept for emergency, and should greatly diminish unnecessary and dangerous delay.

The following table shows the depositories which have been established. With very few exceptions, the recommendations of the local health officers were followed, and, if the table seems to show the neglect of any particular county, it is because the proper recommendations for depositories were not sent in response to request. At the end of the biennial period 169 depositories had been established and stocked. Each had received all the kinds of mailing outfits which are furnished, and also a small window sign announcing the depository:

TABLE VI.
Depositories for the Mailing Outfits of the State Hygienic Laboratory.

County	Town	Drug store
Alameda	Alameda	Flatow's Drug Store
	Hayward	Roger's Pharmacy
	Livermore	McKown & Mess
	Niles	Snedens Pharmacy
	Oakland	Phillip & Phillip
	Pleasanton	Peter Rock
	San Leandro	O. J. Lynch's Pharmacy
Amador	Ione	Model Drug Store
	Sutter Creek	Morris & Siebe
Butte	Chico	Ben Hastings Pharmacy
	Gridley	The Gridley Pharmacy
Colusa	Arbuckle	Chas. G. Stinson
	Colusa	Oscar Robinson
	Maxwell	Fouch's Drug Store
	Williams	J. F. Fouch
	Antioch	Palace Drug Company
Contra Costa	Concord	C. W. Klein
	Crockett	Crockett Drug Company
	Pinole	Pinole Drug Company
	Richmond	Ferguson's Drug Store

TABLE VI—Continued.

Depositories for the Mailing Outfits of the State Hygienic Laboratory.

County	Town	Drug store
Del Norte	Crescent City	Bowman's Drug Store
Fresno	Clovis	Clovis Drug Store
	Fresno	San Joaquin Drug Company
	Kingsburg	Reliable Pharmacy
	Reedley	Reedley Drug Company
	Sanger	O. A. Brehler
	Selma	Dusey & Sawrie
Glenn	Orland	Birch & Company
Humboldt	Arcata	Skinner Duprey Drug Company
	Eureka	Keller-Bohmansson Drug Co.
	Fortuna	Bowman's Drug Store
Imperial	Brawley	Fulton's Pharmacy
	Calexico	Aitken's Pharmacy
	Holtville	Holtville Pharmacy
	Imperial	Imperial Pharmacy
Kern	Delano	Ramsay's Pharmacy
	East Bakersfield	Kern Drug Company
	McKittrick	McKittrick Pharmacy
	Taft	Taft Pharmacy
	Tehachapi	Yerian Brothers
Kings	Corcoran	Corcoran Drug Store
Lake	Kelseyville	Pond Drug Store
	Lakeport	Meddaugh's Drug Store
	Lower Lake	Dr. H. P. Weiper
	Middletown	Middletown Drug Store
Lassen	Susanville	J. B. Spaulding
Los Angeles	Alhambra	F. B. Elwood
	Artesia	Artesia Pharmacy
	Azusa	Dolley Drug Company
	Belvedere	The Logan Drug Company
	Burbank	Burbank Pharmacy
	Claremont	College Drug Store
	Compton	Delmar Pharmacy
	Covina	W. W. Nash
	Downey	The Haygood Pharmacy
	Eagle Rock	Eagle Rock Drug Company
	El Monte	El Monte Drug Store
	Florence	Florence Pharmacy
	Glendale	Glendale Pharmacy
	Glendora	Anderson Pharmacy
	Huntington Park	Batcheller's Pharmacy
	Inglewood	Sollenberger's Drug Store
	Lordsburg	Kenyon's Pharmacy
	Los Angeles	M. S. Tague
	Monrovia	Thos. Neville
	Norwalk	Norwalk Pharmacy
	Ocean Park	Moody's Drug Store
	Tropico	Chas. F. Story's Pharmacy
	Venice	Peoples Drug Company
	Whittier	Whittier Pharmacy
Marin	Belvedere	Belvedere Pharmacy
	Mill Valley	Lockwood Pharmacy
	San Anselmo	Poppy Pharmacy
	San Rafael	Day's Pharmacy
	Sausalito	Sausalito Drug Company
Mendocino	Fort Bragg	Pacific Drug Store
	Mendocino	C. O. Packard Drug Store
	Ukiah	Gibson's Pharmacy
	Willits	Rex Drug Company
Merced	Dos Palos	Dos Palos Drug Store
	Los Banos	Bertholf Drug Store
	Merced	Merced Drug Company
Modoc	Alturas	Gibson Drug Company
Monterey	Monterey	Palace Drug Company
	Salinas	Krough's Drug Store
Napa	Napa	Brownlee's Drug Store
Nevada	Nevada City	Diekerman Pharmacy

TABLE VI—Continued.
 Depositories for the Mailing Outfits of the State Hygienic Laboratory.

County	Town	Drug store
Orange	Anaheim	Mullinix Drug Store
	Fullerton	Finch's Drug Store
	Orange	K. E. Watson Company
Placer	Santa Ana	Rowley Drug Company
	Auburn	J. G. McLaughlin
	Colfax	J. L. Butler & Son
	Dutch Flat	Dr. J. H. Johnston
	Lincoln	Ingram's Drug Store
Plumas	Loomis	Loomis Pharmacy
	Quincy	Quincy Drug Store
Riverside	Banning	Banning Drug Store
	Beaumont	Robert Fulton
	Corona	R. F. Billings Estate
	Elsinore	Wright Drug Company
	Hemet	Wedemeyer's Pharmacy
	Riverside	F. A. Gardner & Company
	Elk Grove	"Ye Medicine Shop"
San Bernardino	Folsom	S. H. & F. P. Burnham
	Chino	Reher's Pharmacy
San Diego	Colton	Colton Pharmacy
	Needles	Needles Drug and Jewelry Co.
	Redlands	Mont P. Chubb Drug Company
	San Bernardino	Owl Drug Store
	Chula Vista	Wigginton's Pharmacy
	Coronado	Central Drug Store
	Esccondido	Baldbridge Drug Company
	La Mesa	La Mesa Drug Store
	Oceanside	Exton & Nichols
	Ramona	Thos. Jerman
San Joaquin	San Diego	Ferris & Ferris
	Stockton	Eagle Drug Store
San Luis Obispo	Arroyo Grande	W. A. Conrad, Jr.
	Cambria	Peoples Drug Store
	Paso Robles	W. C. Bennett
Santa Clara	San Luis Obispo	Peoples Pharmacy
	Campbell	Orchard City Drug Company
	Los Gatos	Geo. A. Green's Pharmacy
	Mountain View	E. T. Johnson
	Palo Alto	University Pharmacy
	Palo Alto	Health Department (Harold F. Gray, Health Officer.)
	San Jose	Curtis & Henkle Drug Company
Santa Cruz	Santa Clara	Madden's Pharmacy
	Santa Cruz	Palmer Drug Company
	Watsonville	Steinhauser & Eaton
Shasta	Redding	Powell Pharmacy Company
Sierra	Downieville	Downieville Drug Store
	Loyalton	Loyalton Drug Company
Siskiyou	Dunsmuir	Red Cross Drug Store
	Etna Mills	W. J. Balfrey
	Sisson	Mt. Shasta Pharmacy
Solano	Yreka	Avery Drug Company
	Benicia	Benicia Pharmacy
	Dixon	California Drug Store
	Rio Vista	Rio Vista Pharmacy
	Suisun	Criterion Drug Store
Sonoma	Vacaville	Reid Drug Company
	Vallejo	Vallejo Drug Company
	Healdsburg	Rathke's Pharmacy
	Petaluma	Young-Herold Drug Company
	Santa Rosa	Hahman Drug Company
Stanislaus	Ceres	Ceres Drug Company
	Modesto	Maze Drug Store
	Newman	Pioneer Drug Store
Tehama	Oakdale	Endicott's Drug Store
	Turlock	Turlock Drug Company
	Corning	Thompson's Drug Store
	Red Bluff	Elmore Pharmacy

County	Town	Drug store
Trinity	Weaverville	D. B. Fields, M.D.
Tulare	Dinuba	McCracken's Pharmacy
	Exeter	Mixter Pharmacy
	Lindsay	Lindsay Drug Company
	Tulare	E. Allen Test
	Visalia	J. M. Boynton
Tuolumne	Sonora	Union Drug Store
	Tuolumne	Bigelow's Drug Store
Ventura	Nordhoff	Ojai Drug Store
	Santa Paula	Cauch's Drug Store
	Ventura	Pioneer Drug Store
Yolo	Winters	Day's Drug Store
	Woodland	John V. Leithold
Yuba	Marysville	Horning Drug Company
	Wheatland	Wheatland Pharmacy

Division of Preventive Therapeutics.

The work of the Division of Preventive Therapeutics includes the manufacture and free administration of the Pasteur antirabic virus to persons who have been inoculated with the saliva of rabid animals and can not afford to purchase the preventive treatment, and also the manufacture and free distribution to physicians of antityphoid vaccine.

Pasteur Antirabic Treatment.

During the biennial period the Hygienic Laboratory has manufactured all the virus used by the State Board of Health. Two new stations for the administration of the virus were arranged for at San Diego and Mare Island, making ten laboratories at which the treatment can be obtained if needed. On March 17, 1914, Dr. H. A. Thompson, City Pathologist of San Diego, was appointed a deputy to administer the free treatment to people of San Diego. On the same day Dr. M. F. Gates, medical inspector in the United States Navy, was similarly deputized to give the treatment at the Naval Hospital on Mare Island. The laboratories and the treatments given at each are shown in Table VII. The counties from which the patients were sent are shown in Table VIII. As an emergency measure and a courtesy, treatment for two persons was sold at cost to the State Board of Health of Oregon.

TABLE VII.
Pasteur Treatments, July 1, 1912, to June 30, 1914.

Place of administration	Number of cases	Treatments completed	Deaths	Diagnosis in biting animal based on—		
				Negri bodies or inoculation	Observed symptoms	Suspicious history
Main laboratory at Berkeley.....	204	200	1	142	42	120
Northern branch at Sacramento.....	76	36		31	2	3
San Joaquin Valley branch at Fresno.....	18	18		15		3
Southern branch at Los Angeles.....	22	21	1	17	1	4
Laboratory of the Sacramento Board of Health, by deputized bacteriologist.....	14	12		9	3	2
Laboratory of the Los Angeles Board of Health, by deputized bacteriologist.....	18	16		14	4	
Laboratory of the San Diego City Board of Health, by deputized bacteriologist.....	6	6		4	2	
Laboratory of the San Francisco Board of Health, by deputized bacteriologist.....	153	132	1	85	17	31
Letterman General Hospital, Presidio, San Francisco, by deputized bacteriologist.....	13	13		11	1	1
United States Naval Hospital, Mare Island, by deputized bacteriologist.....						
Oregon State Board of Health.....	2	2		2		
Totals.....	466	456	3	330	72	64

¹Including 7 laboratory workers.

²Including 1 laboratory worker.

TABLE VIII.
Distribution of Cases by Counties.

San Francisco.....	147
Alameda.....	119
Los Angeles.....	25
Sacramento.....	23
Santa Clara.....	23
Placer.....	21
San Diego.....	13
Fresno.....	12
Contra Costa.....	12
San Mateo.....	11
San Joaquin.....	10
Stanislaus.....	9
Napa.....	6
Ventura.....	5
Marin.....	4
Butte.....	3
Merced.....	3
Sonoma.....	3
Yolo.....	3
San Bernardino.....	3
Amador.....	2
Oregon.....	2
Solano.....	2
Tuolumne.....	2
Mendocino.....	1
Shasta.....	1
Tehama.....	1
Total.....	466

The animals infecting the wounds that necessitated the Pasteur treatment were 416 dogs, 21 cats, 7 cows, and 5 horses. In 9 cases the infection came from cases of human rabies. Seven treatments were given to laboratory workers as precautionary measures, and one to a physician who inoculated himself accidentally while giving the Pasteur treatment.

Deaths from rabies occurred in three of the 466 patients. These fatal cases of rabies are described as cases Nos. 8, 13, and 14, in the section of this report on "Rabies" under the "Division of Biological Examinations." The intervals of time between the end of treatment and the onset of symptoms were 4, 15, and 18 days, respectively. These patients were children, aged 4, 5, and 5 years, respectively. They had been severely bitten about the head by rabid dogs, and the production of immunity by the intensive antirabic treatment was not established fast enough and in sufficient intensity to protect against these three unusually severe inoculations.

No serious complications during treatment occurred. In two cases local abscesses were reported and were probably due to faults in asepsis in preparing the virus for administration. When we consider that the 456 treatments which were completed include 11,400 hypodermic injections of a suspension of tissue which had been ground in an open mortar just prior to administration, it is not surprising that two doses produced local abscesses. In two cases there were malaise and nausea in the middle of the course of treatment. In one case there was transient urticaria. One patient complained of pain in the leg which had been bitten. One case developed an extensive inflammation of his joints, which was probably due to an infection contracted prior to his treatment. One patient, who had been taking the treatment as a precautionary measure owing to frequent exposure to rabid animals, shortly after the end of treatment developed transient hoarseness and weakness of the legs lasting about two weeks. It is not certain that these manifestations had a relation to the treatment, but the condition may have been a very mild manifestation of the process which in rare instances produces a transient paralysis after the Pasteur treatment. One patient complained of neuralgia of the left side of the face for a week shortly after the end of treatment, and another had a troublesome occasional spasmodic contraction of the muscles on the side of the neck, pulling down the jaw. This came on a month after the end of treatment.

It is apparent that some of these complications among 466 patients probably had no relation to treatment, and in some of the cases they may have been due to the original inoculation by a rabid animal. On the whole the record is satisfactory, as the majority of the patients had been bitten by animals proved rabid by the finding of Negri bodies or by animal inoculation (330 out of 466, or 71 per cent) and most of the others gave a history of being bitten by animals which were in all probability rabid, but which could not be investigated in the laboratory.

Typhoid Vaccine.

On March 1, 1914, the laboratory began the manufacture and free distribution of antityphoid vaccine to the physicians of California. The vaccine was prepared from a number of strains of the typhoid bacillus which had been isolated in California. The improved method of Gay and Claypole of the University of California was followed. In this

method the vaccine is killed with alcohol instead of heat, is ground to a fine powder, and is sensitized by treatment with a strong antityphoid immune serum. The number of treatments issued was not large during the spring and early summer, but the work was well under way before the end of the biennial period, and the laboratory was prepared for the heavy demand which occurred during the late summer and fall when typhoid fever was prevalent. Vaccine was distributed as follows on the request of physicians:

March, 1914	-----To	35 physicians for	347 patients
April, 1914	-----To	34 physicians for	650 patients
May, 1914	-----To	43 physicians for	383 patients
June, 1914	-----To	59 physicians for	442 patients
Total	-----To	171 physicians for	1,822 patients

Vaccine was furnished in large lots for the immunization of militiamen, of employees of lumber camps, and of state prisoners.

All physicians receiving the vaccine were asked to fill out and return data cards giving particulars regarding the treatment. They were especially urged to report at once the development of typhoid fever at any time subsequent to treatment. Only 748 of the data cards were filled out and returned. The severity of the reactions can be classified from the physicians' reports as follows: None, 485; slight, 189; moderate, 58; severe, 16; total, 748. In three cases abscesses occurred at the site of inoculation. These may have been due to failure to sterilize the syringes properly or to a local necrosis without infection.

Much of the vaccine is sent into communities where typhoid fever is prevalent, and frequently the vaccine is administered to persons already exposed to typhoid cases. In spite of this fact only four cases of typhoid fever were reported in persons receiving vaccine from the laboratory. One of these cases developed typhoid fever before he had received his third dose of the vaccine. He had been exposed two weeks before he was vaccinated. The other three cases had been exposed to typhoid fever in their own families and came down 7 days, 11 days, and 25 days, respectively, after the last dose of vaccine. As it takes approximately a month for typhoid vaccination to produce a high degree of immunity, at least two of these three cases can not be regarded as true failures.

Division of Epidemiological Investigations.

The Division of Epidemiological Investigations deals with the study and control of outbreaks of communicable disease. These investigations are carried on in the field as well as in the laboratory. They are very important as they deal chiefly with health emergencies. Local health officials, outside of our largest cities, are seldom in a position to carry on an intensive investigation of the causes of an outbreak of disease. When the causes are known, rational measures for control can be instituted, and the public is better protected and less annoyed than when the measures are not based on actual conditions discovered by trained epidemiologists.

Although some of the special investigations listed in the following report are not strictly limited to the field of epidemiology, they will be reported here for convenience.

1. An investigation of the conditions in the steerage of the steamship Newport. Begun on June 27, 1912.

2. A determination of the Hygienic Laboratory phenol coefficient of five disinfectants submitted by the Mendocino State Hospital, for the State Board of Control. The samples were received on July 1, 1912.

3. A bacteriological examination of clams from the shore between Sausalito and Mill Valley. Begun on July 9, 1912.

4. An investigation of a fourth case of human rabies in San Francisco. The patient was visited on July 19, 1912.

5. An investigation of a fifth case of human rabies in San Francisco. Begun on July 22, 1912.

6. An investigation of typhoid cases from the steamship "President." Begun on August 2, 1912.

7. An investigation of specimens of feces from a typhoid carrier. Begun on August 9, 1912.

8. An investigation of the bactericidal power of "Chloro-Naphtholeum." Begun on September 18, 1912.

9. An investigation of the bactericidal power of two samples of "Sanitation Drip." Begun on September 18, 1912.

10. An investigation of a death in San Anselmo reported as typhus fever, and found to be typhoid fever. Begun on September 26, 1912.

11. A bacteriological examination of six samples of ice, for colon bacilli. The examination was part of a larger investigation by the State Food and Drug Laboratory. Begun on September 27, 1912.

12. An investigation of the transmission of poliomyelitis by means of the stable fly (*Stomoxys Calcitrans*). Begun on October 18, 1912.

13. An investigation of diphtheria cases in Sutter Creek. Sutter Creek was visited on November 27, 1912.

14. An investigation of two cases of suspected poliomyelitis in Sacramento. Sacramento was visited on December 9, 1912.

15. An investigation of an epidemic of dysentery at Madison. Begun in Madison and Woodland on December 10, 1912.

16. An investigation of a case of human rabies in Sacramento. Begun on December 11, 1912.

17. An investigation of five cases of smallpox in Berkeley. Begun on January 8, 1913.

18. A bacteriological examination of samples from the water supply of Sacramento. Sacramento was visited on January 12, 1913.

19. An investigation of the typhoid fever situation at Antioch. Antioch was visited on January 15, 1913.

20. An investigation of a case of chronic glanders in man, at Hayward. Begun on January 24, 1913.

21. An investigation of an outbreak of diphtheria at Hayward. Hayward was visited on January 27, 1913.

22. An investigation of a case of infantile paralysis near San Leandro. The patient was visited on January 28, 1913.

23. An investigation of smallpox of several grades of severity in one family in Oakland. The patients were visited on January 29, 1913.

24. An investigation of a seventh case of human rabies in San Francisco. Begun on February 3, 1913.

25. An investigation of a case of pneumococccic meningitis, and a case of suspected meningitis of unknown etiology at Richmond. Begun at Richmond on February 7, 1913.

26. An investigation of the typhoid situation at Colusa. Colusa was visited on February 12, 1913.

27. An investigation of a sixth case of human rabies in San Francisco. Begun on February 24, 1913.
28. A bacteriological examination of cement and coal dusts. Begun on March 7, 1913.
29. An investigation of the slaughterhouse and fertilizer plant at Elmhurst. Begun on March 7, 1913.
30. An investigation of the conditions of the quarantine of a mild case of scarlet fever in Berkeley. Begun on March 8, 1913.
31. An investigation of scarlet fever in the State Deaf, Dumb and Blind Institute, at Berkeley. Begun on March 8, 1913.
32. An investigation of the methods of sterilization in common use in barber shops. Begun on March 17, 1913.
33. An investigation of an outbreak of smallpox in the State Hospital at Stockton. Stockton was visited on March 21, 1913.
34. An investigation of a case of suspected poliomyelitis at Alameda. The patient was visited on March 31, 1913.
35. An investigation of methods of disinfecting books. Begun on April 17, 1913.
36. An investigation of scarlet fever and diphtheria at Lakeport. Lakeport was visited on May 8, 1913.
37. An investigation of the virulence of diphtheria bacilli in the throats of carriers. Reported May 13, 1913.
38. An investigation of an eighth case of human rabies in San Francisco. Begun on May 23, 1913.
39. An investigation of a ninth case of human rabies in San Francisco. Begun on May 27, 1913.
40. An investigation of smallpox at Walnut Creek. Walnut Creek was visited on May 31, 1913.
41. An investigation of an outbreak of severe diarrhoea at Bay Point. Begun on June 10, 1913.
42. An investigation of a case of human plague near San Juan, San Benito County. Begun on June 13, 1913.
43. An investigation into the possibility of the transmission of diseases by the mouthpiece of the public telephone. Begun on June 18, 1913.
44. An investigation of a typhoid outbreak at Irvington. Irvington was visited on July 12, 1913.
45. An investigation of the alleged purification of air by the ozone machine. Reported on July 22, 1913.
46. An investigation of poliomyelitis in Siskiyou County. The region was visited on August 24, 1913.
47. An investigation of a case of human plague at Martinez. Begun on September 11, 1913.
48. An investigation of smallpox in San Jose. San Jose was visited on September 16, 1913.
49. An investigation of a human case of rabies in Santa Rosa. Begun on September 16, 1913.
50. An investigation of the source of a typhoid infection supposed to have been contracted in Monterey County. Begun on October 3, 1913.
51. An investigation of a case of optic neuritis developing during Pasteur treatment. Begun on October 26, 1913.

52. An investigation of smallpox cases at Modesto. Modesto was visited on October 28, 1913.
53. An investigation of a human case of rabies at Los Angeles. Reported on October 30, 1913.
54. An investigation of cases of streptococcus infection simulating plague at Kennett. Kennett was visited on November 8, 1913.
55. A bacteriological examination of two samples of wine. Begun on November 11, 1913.
56. An investigation of two cases of trichinosis at the University of California Infirmary. Reported on November 14, 1913.
57. An investigation of an outbreak of epidemic poliomyelitis in Humboldt County. Reported in November, 1913.
58. An investigation of a human case of rabies at Newcastle, Placer County. Reported December 4, 1913.
59. An investigation of the lesions produced by the poisonous tick, *ornithodoros coriaceus*. Reported in December, 1913.
60. An investigation of a human case of rabies in Lincoln. Reported on December 11, 1913.
61. An investigation of the epidemiology of rabies in California and its control. Reported December 13, 1913.
62. An investigation of the apparent recovery of a case of human glanders at Hayward. The patient was visited on January 5, 1914.
63. An investigation of smallpox in Santa Cruz. Santa Cruz was visited on January 10, 1914.
64. An investigation of rabies in Sonoma County. Santa Rosa was visited on January 13, 1914.
65. An investigation of a human case of rabies in Oxnard, Ventura County. Reported on January 24, 1914.
66. An investigation of a case of epidemic cerebrospinal meningitis in Albany. The patient was visited on February 5, 1914.
67. An investigation of the smallpox situation at Cupertino, Santa Clara County. Cupertino was visited on February 14, 1914.
68. A bacteriological examination of eggs brought in cold storage from the Orient. Begun on February 27, 1914.
69. An investigation of the rabies situation in Sonoma County. Santa Rosa was visited on March 19, 1914.
70. An investigation of a human case of rabies in Oakland. Begun on March 23, 1914.
71. A study of the literature on the effect of the septic tank on pathogenic bacteria in sewage. Begun on March 24, 1914.
72. An investigation of the possibility of contamination of the water supply of the city of Chico. Chico was visited on March 26, 1914.
73. An investigation of a case of paralysis following the Pasteur treatment. Begun on March 30, 1914.
74. An investigation of a typhoid outbreak at Hanford. The investigation was begun on April 2, 1914. A carrier was discovered who had infected ninety-three persons.
75. An investigation of the effect of quinine on rabies in dogs. Reported in May, 1914.
76. An investigation into the incomplete sterilization of certain dishes by baking. Reported in May, 1914.
77. An investigation of milk sauces as culture media. Reported in May, 1914.

78. An investigation of cheese responsible for food poisoning. Reported in May, 1914.

79. An investigation by physiological tests of the strengths of tinctures of digitalis and strophanthus found in the market. Reported in June, 1914.

80. An investigation into the bacterial content of tomato products. Reported in June, 1914.

81. An investigation of a case of human plague at Walnut Creek, Contra Costa County. Begun on June 5, 1914.

Research.

Research is being carried on in the laboratory with a view to solving important public health problems. A thorough study was made of two typhoid carriers, and an extensive investigation into the methods of transmission of poliomyelitis (infantile paralysis) was carried on. This latter investigation was made jointly by the Bureau of the Hygienic Laboratory and the Department of Agriculture of the University of California. Professor W. B. Herms of that Department co-operated with the director of the laboratory in planning and carrying on the work.

Instruction in Public Health.

The laboratory has continued to loan to teachers its bacteriological instruction outfits. During the biennial period 49 outfits were issued on request.

Demands for lectures or papers on public health subjects are met by members of the staff when compliance does not interfere with the necessary routine and special investigations of the Bureau. During the biennial period the Director has given 28 lectures or talks on public health topics and the Chief Bacteriologist has given 5 talks.

A considerable part of the correspondence of the laboratory consists of letters of information sent in reply to the practical questions of health officials and the general public.

In addition to the more popular reports to be found in the bulletins of the State Board of Health, the laboratory staff have published in scientific journals eight papers dealing with the work of the Bureau.

Laboratory Staff.

At the beginning of the biennial period, on July 1, 1912, Dr. J. C. Geiger became Chief Bacteriologist, succeeding Miss Esther M. Skolfield, who had been Acting Chief Bacteriologist since March 1, 1912. Miss Skolfield remained on the staff as Assistant Bacteriologist until March 15, 1914, when she resigned and was succeeded by Miss Violet M. Bathgate. On January 20, 1914, Miss Grace A. Macmillan was appointed Laboratory Assistant and was assigned to work in connection with the Wassermann tests for syphilis, and the manufacture of sensitized typhoid vaccine. On January 26, 1914, Dr. Walter V. Brem took charge of the Southern Branch of the State Hygienic Laboratory, succeeding Dr. Stanley P. Black. On April 1, 1914, Miss Vera Brown became Assistant Stenographer on a half-time basis. On July 1, 1913, Mr. J. Taylor Jordan resigned the position of Laboratory Helper. Mr. Judson E. Krueger was employed in this capacity until August 1, 1913, when Mr. Leon C. Banker took the position, which he held until the end of the biennial period.

On June 30, 1914, the laboratory staff was as follows :

Wilbur A. Sawyer, A.B., M.D.	Director
Jacob C. Geiger, M.Ph., M.D.	Chief Bacteriologist
Violet M. Bathgate, B.S.	Assistant Bacteriologist
Grace A. Macmillan	Laboratory Assistant
Walter V. Brem, M.D.	In charge of Southern California Branch
W. W. Cross, M.D.	In charge of San Joaquin Valley Branch
Fred F. Gundrum, M.D.	In charge of Northern California Branch
Florence B. Shackelford	Stenographer
Vera Brown (half time)	Assistant Stenographer
Leon C. Banker	Laboratory Helper

Building and Equipment.

Since its establishment in 1905, the State Hygienic Laboratory has been housed on the campus in Berkeley in rooms assigned to it without charge by the University of California. On October 4, 1913, owing to the overcrowding of the laboratory quarters, the offices and laboratories were moved to rooms on the ground floor of the same building and in a new addition built by the university. In this way the university generously provided for the immediate needs of the laboratory. A special building should be constructed by the state to house in one building the various laboratories of the State Board of Health, including the Food and Drug Laboratory.

Respectfully submitted.

W. A. SAWYER, Director,
Bureau of the Hygienic Laboratory.

REPORT OF BUREAU OF TUBERCULOSIS.

BURT F. HOWARD, M. D., Director.

This bureau has been in operation ten months, having been created by an act of the people of California represented in Senate and Assembly on June 13, 1913, while the director of the bureau did not assume his duties until September 1, 1913.

The object of the bureau, in general, is to institute certain investigations which have for their purpose the attainment of a rational solution of California's tuberculosis problem, and to undertake "the control and eradication of tuberculosis" whenever the time is ripe for such an undertaking.

There are indications that the people of California are awakening to the importance of organized effort to combat this preventable disease which is the chief single cause of death in California, and annually kills over five thousand persons.

Evidence of this awakening as represented in state legislation is as follows:

In 1904 a bill appropriating \$150,000 for a state sanatorium was introduced, but failed.

In 1907 the legislature passed a law requiring the notification of tuberculosis, but not distinct from other communicable diseases. An anti-spitting law was passed, and \$2,000 was appropriated for the dissemination of knowledge to prevent the spread of tuberculosis.

In 1909 the State Board of Health was granted \$2,000 for a tuberculosis exhibition campaign, and was empowered to contract for the treatment of indigent tuberculous residents in private or public sanatoria, the bills to be met by the patient's home county.

This provision for the treatment of incipient tuberculosis is legally in force "until such time as there shall be established by law in this State a state hospital for the medical treatment of persons afflicted with incipient pulmonary tuberculosis.

Various local ordinances indicate interest in this subject, one of the more important being the resolution passed in 1911 by the San Francisco Board of Education, requiring that "all new school buildings to be erected should set aside one or more rooms for open air school purposes."

In 1911 the California Tuberculosis Commission was appointed by the State Board of Health, with an available appropriation of \$5,000 for continuing the education of the public concerning tuberculosis, and conducting certain investigations into the cause and prevention of tuberculosis.

The establishment of the Bureau of Tuberculosis was the result of one of the recommendations of this commission, and its work (as indicated in the accompanying outline Table No. 1) is the first step in the fulfillment of the plan of the commission for a definite program for the prevention of tuberculosis.

Duties of the Director of the Bureau of Tuberculosis as Specified in the Law and Assigned by the State Board of Health.

I. ADMINISTRATION OF DEPARTMENT.

1. Supervision over hospitals, dispensaries, sanatoria, farm colonies and other institutions for tuberculosis. Recommendations for appointments, promotions, dismissals, etc.
2. Attending educational meetings and conferences for the purpose of bringing about the establishment of the above dispensaries, etc.
3. Correspondence.
 - (a) As secretary of the Advisory Board.
 - (b) Educational—Advising officers of the penal and charitable institutions, etc.
 - (c) General—Replying to inquiries regarding the bureau, state laws, hospitals, etc.
4. Preparation of monthly and biennial reports of the work of the bureau.

II. INSPECTION.

- A. Inspection of public tuberculosis institutions.
 - (a) Tuberculosis Department of state insane hospitals.
 - (b) Tuberculosis Department of state prisons.
 - (c) Tuberculosis Department of county hospitals.
 - (d) Tuberculosis Department of Veterans' Home.
- B. Inspection of private tuberculosis institutions.
 - (a) Tuberculosis departments of private hospitals.
 - (b) Private sanatoria.
 - (c) Private dispensaries.
 - (d) Private camps, etc.
- C. Preparation of reports, accounts and correspondence relating to inspections.

III. REGISTRATION OF CASES.

1. Publicity.
 - (a) Informing physicians and health officers of the law (by means of letters, press articles, lectures, etc.).
 - (b) Creating public sentiment in favor of registration (by means of letters, press articles, lectures, etc.).
2. Registration.
 - (a) Filing reports of living cases.
 - (b) Removing from register the names of those who have died.
 - (c) Classification of data obtained.

IV. OTHER DUTIES ASSIGNED BY THE BOARD OF HEALTH.

- (a) Executive, during absence of secretary or other executive officer of the Board of Health.
- (b) Encouraging the establishment of dispensaries by private or municipal funds.
- (c) Miscellaneous duties not specified in the law, as inspection of nuisances, attendance on conferences, medical meetings, investigation of complaints, etc.

EXPLANATORY DATA.

As there is no fund for hospitals, etc., there are at present no administrative duties under paragraph "I," section "1." Paragraph "I," section "2" is intended to cover a portion of the publicity work necessary to the establishment of a comprehensive scheme for combating tuberculosis.

As no Advisory Board has been appointed, there are at present no duties to be performed in the capacity of its secretary. Educational correspondence includes the mailing of printed matter which has for its purpose the prevention of tuberculosis. "Advising officers of the penal and charitable institutions," specified in the law, is included in paragraph I, section 3 (b), because a portion of this work may be done by correspondence.

"Reports relating to inspections" is intended to cover the passage of the law which requires "rating on sanitary construction, enforcement of sanitary measures, adequate provision for medical and nursing attendance, provision for proper food and such other matters of administration as may be designated."

The fund appropriated for the use of the bureau (\$7,500) was so small as to necessarily restrict its operations chiefly to the two points specified in the law, namely, the work of inspection of institutions and promotion of "the complete and proper registration of all tuberculous persons within the State," and whatever has been accomplished this year may be considered as merely preparatory to what is to be undertaken in the years to come.

A list of institutions inspected follows, together with the date when they were inspected and the number of beds available for tuberculosis.

**County Hospitals Receiving Tuberculosis, with Tuberculosis Departments or
Beds Reserved for Tuberculosis.**

Name	Address	Number of Tubercu- losis	Inspected
1. Alameda	San Leandro	75	Sept. 25, 1913
2. Butte	Oroville	16	Dec. 11, 1913
3. Calaveras	San Andreas	12	
4. Contra Costa	Martinez	10	Jan. 23, 1914
5. Fresno	Fresno	30	May 1, 1914
6. Glenn	Willows	5	
7. Humboldt	Eureka	10	
8. Imperial	El Centro	10	Apr. 25, 1914
9. Kern	Bakersfield	10	Apr. 30, 1914
10. Kings	Hanford	8	
11. Los Angeles	Los Angeles	200	Oct. 5, 1913
12. Madera	Madera	1	May 1, 1914
13. Marin	San Rafael	6	
14. Merced	Merced	6	May 1, 1914
15. Monterey	Salinas	6	Apr. 13, 1914
16. Napa	Napa	2	Jan. 22, 1914
17. Nevada	Nevada City	1	
18. Orange	Santa Ana	5	Oct. 18, 1913
19. Riverside	Riverside	12	Oct. 16, 1913
20. Sacramento	Sacramento	30	Dec. 19, 1913
21. San Benito	Hollister	10	Jan. 15, 1914
22. San Bernardino	San Bernardino	30	Oct. 14, 1913
23. San Diego	San Diego	25	Oct. 18, 1913
24. San Francisco	San Francisco	170	Sept. 24, 1913
25. San Joaquin	French Camp	41	Dec. 29, 1913
26. San Luis Obispo	San Luis Obispo	1	Apr. 13, 1914
27. San Mateo	San Mateo	4	Jan. 16, 1914
28. Santa Barbara	Santa Barbara	10	
29. Santa Clara	San Jose	34	Sept. 26, 1913
30. Santa Cruz	Santa Cruz	2	Jan. 14, 1914
31. Shasta	Redding	8	
32. Siskiyou	Yreka	4	
33. Sonoma	Santa Rosa	6	
34. Stanislaus	Modesto	6	May 1, 1914
35. Tehama	Red Bluff	3	
36. Tulare	Visalia	4	Apr. 30, 1914
37. Ventura	Ventura	6	
38. Yolo	Woodland	2	May 26, 1914
39. Yuba	Marysville	4	Dec., 1913
Total number of beds		825	

County Hospitals Which Do Not Have Tuberculosis Departments, or Do Not Reserve Beds for Tuberculous Persons.

Name	Address	Inspected
1. Alpine -----	Markleeville.	Dec. 30, 1913
2. Amador -----	Jackson -----	
3. Colusa -----	Colusa.	
4. Del Norte -----	Crescent City.	
5. El Dorado -----	Placerville.	
6. Lake -----	Lakeport.	
7. Lassen -----	Susanville.	
8. Mariposa -----	Mariposa.	
9. Mendocino -----	Ukiah.	
10. Modoc -----	Alturas.	
11. Mono -----	Bridgeport.	Nov. 14, 1913
12. Placer -----	Auburn -----	
13. Plumas -----	Quincy.	
14. Sierra -----	Downieville.	
15. Solano -----	Fairfield	Dec. 11, 1913
16. Sutter -----	Yuba City -----	
17. Trinity -----	Weaverville.	
18. Tuolumne -----	Sonora.	

It will be observed that our county hospitals make provision of 825 beds for pulmonary tuberculosis, that the private sanatoria provide 732, and that private hospitals provide 102, or a total of 1,659 beds available in the State, besides those in the state insane hospitals, prisons, homes and federal institutions which have about 200 beds for the use of restricted classes only.

As the average number of deaths in the State, from this cause, during 1912 and 1913 was 5,265, and the average duration of the disease may be said to be three years, it may readily be estimated that there are at present in the State over fifteen thousand (15,000) persons who will probably die from tuberculosis. The actual number in whom the disease could be discovered is conservatively estimated at five to ten times the number of deaths, which would make the number of tuberculous persons in California at present from twenty-five to fifty thousand.

Thus it will be seen that existing institutions, both public and private, can care for but a small proportion of the tuberculous, *i. e.*, one in ten of those who are destined to die of tuberculosis, and hence are actively infectious, and perhaps one in twenty of those who actually need hospital care either with the expectation of recovery or for the sake of protecting the family from the danger of an otherwise unavoidable intimate association.

County Hospitals.

Let us consider what our county hospitals are doing with reference to the tuberculosis problem. It will be observed that Los Angeles County provides the largest number of beds for tuberculosis, namely 200. On consulting the tables of deaths it will be seen that the average number of deaths of this county, in the years 1912 and 1913, is 1,606. Evidently the disproportion between the number of beds provided and the demand holds here as well as throughout the State. In this county other provision for hospital care brings the total number of beds avail-

able up to 518, possibly one eighth of the number of those needing the sort of care which can best be given in hospitals.

While the investigations of this bureau reveal the fact that numerically there is a great shortage in the provision of hospital care for tuberculosis, the inspections disclose also wide variations in the character of the provision for these cases, as may be judged from the reports on file with the Secretary of the Board of Health. Many of these hospitals have a department devoted strictly to the care of tuberculous persons, and give these cases the best possible attention. Others make no pretense of either maintaining a department or making the hospital attractive to this class of sufferers. In most of the smaller counties the "county hospital" and the poor farm or almshouse are one, and the opprobrium which is attached to the poor farm prevents free use of the hospital by the tuberculous except as a last resort; consequently the class of patients found in our county hospitals is usually advanced in the disease.

Thirty-nine county hospitals reserve beds for tuberculous persons, the total amounting to 825 beds. Eighteen make no special provision for the tuberculous, though when cases are discovered among the inmates they are sometimes assigned to private rooms or tents.

Private sanatoria and private hospitals receiving tuberculosis provide for over 700 cases. In the main they are of great benefit to the community in which they exist, both from an educational standpoint and because of the prevention of infection by the actual number of active cases withdrawn from the community.

Institutions conducted as a whole or in part by the State have not in the past made complete provision for isolation of tuberculous cases. There is at present, however, a distinct tendency to correct this defect, and a portion of the work of this bureau has been to assist in bringing about a change for the better in this respect.

As but one inspection has been made in the majority of cases, it is impossible to report accurately at this time as to the benefit of state inspections of county hospitals, private hospitals, and sanatoria. Recommendations accompanied the majority of all reports submitted, duplicates being sent to superintendents of institutions inspected, as well as to the Board of Health. The following extract from one of these reports will serve as an example of the type of recommendations sent to some of the better county hospitals:

We have here a well made tuberculosis hospital, well furnished and well kept, and yet there were but 12 beds occupied by tuberculous patients out of the 42 available. With 269 deaths in 1910 and 1911 in the county from pulmonary tuberculosis one would naturally suppose that there might be at least 100 applicants waiting for an opportunity to be treated here.

It might be well to consider possible causes for this discrepancy with a view to providing better results here and avoiding mistakes elsewhere, if any can be discovered.

First—The site is a little remote from friends and relatives of patients. This would not be so noticeable if there were electric car service or if steam cars were more convenient.

Second—While the farm is large enough to afford privacy to the institution as a whole, the tuberculous patients are too near the others for the sort of privacy demanded by the long stay required in this disease. This is particularly noticeable because of the proximity of the buildings assigned to smallpox and other contagious diseases, which are so near that patients are sometimes advised not to use the stairway

and porch at that end of the tuberculosis building which is near the contagious wards. This in itself probably results, in some cases, in a feeling of uneasiness and restraint.

Third—An ideal institution of this size, if located by itself, would be provided with an assembly room and library to facilitate the entertainment of patients. There would be no serious objection to the use of a library by tuberculous patients in common with other patients, if books were properly protected and disinfected.

Fourth—It frequently is the case, and may possibly be so here, that where patients are treated in a general hospital they feel that they do not receive their proportion of medical care because acute cases which remain a short time in the hospital make such insistent demands on the time of the attending physicians. This difficulty has been met in some institutions by having a staff of visiting physicians who are specialists in tuberculosis or at least particularly interested in the subject of tuberculosis. This feature is also desirable as a means of increasing the interest in tuberculosis among physicians and providing an opportunity for special study of this disease.

Fifth—Nurses in training should have the advantage of special instruction in tuberculosis nursing, and an effort be made to place this kind of nursing on a par with other branches of nursing service. If possible there should be a night nurse on duty when there are advanced cases, or at least a nurse subject to call.

The object in general of these recommendations is to make the patients feel that they are being treated along scientific lines which will result in recovery where recovery is possible.

Such provision should be made for their social life as to make a prolonged stay endurable, if not enjoyable. This is perhaps the most difficult problem of all, and with the heterogeneous types which at present apply for admission is not completely practicable. However, it is probably more practicable and better to induce patients to remain for a proper time than it would be to enforce compulsory residence if there were laws permitting such procedure.

As the inspection of institutions constitutes an important part of the work of the bureau, perhaps the best way to give an idea of this work will be to summarize a portion of the reports.

Recommendations which have been made to county hospitals have in general included the following points:

Site.—Where the county is small or thinly populated it is recommended that it unite with a neighboring county or counties in erecting and maintaining a tuberculosis hospital, as recommended by the Tuberculosis Commission.

That the site selected be as near the communities served as practicable and accessible by street car if near a large town, except in such cases as those in which a marked climatic advantage is to be obtained by a more remote site within the county, as the foothills in counties where the summers are excessively hot.

That the tuberculosis hospital should be independent of the poor farm and remote from it, where possible.

If built on the county hospital grounds that it should not be grouped with the infectious disease wards in the rear of the main buildings, but should have a site with a pleasant outlook, including trees and lawns especially where tents, tent houses, or pavilions are used.

Construction.—Permanent buildings are advised in preference to temporary cheap structures as being less expensive to operate and more comfortable for the average case received which is usually well advanced in the disease. However, in many parts of the State, under favorable climatic conditions simple pavilions properly furnished are considered appropriate.

Small wards (six to eight beds), a reasonable proportion of private rooms for the very ill or dying, and either private closets or lockers for all have been advocated.

In some instances the cottage plan is recommended, but usually as accessory to a central plant, either for the purpose of housing female patients who are oftentimes in the minority, or for the sake of providing private rooms in connection with hospitals which have an inadequate supply, or finally for the purpose of offering specially attractive accommodations to patients who desire to pay a part or all of the expense of their maintenance. In most instances buildings of a single story are preferred, and buildings over two stories are considered undesirable because they make an easy outdoor life difficult.

Equipment.—Equipment is recommended which will make the outdoor life comfortable and practicable, such as an abundance of clothing, both personal and for bedding, reclining chairs and appropriate shade.

Such medical equipment as is especially necessary for this class of cases, also a proper laboratory equipment, and provision for disposal of the sputum.

Administration.—Medical and nursing attendance. Where possible it is advised that there should be a resident medical officer, or at least a registered nurse. A consulting staff is considered desirable in all cases. A nurse for each ten bed patients is recommended; one for each fifteen ambulant patients, and one registered nurse for each fifty patients.

Aside from the medical management other administrative matters touched upon are as follows: Are pay patients desirable from an administrative standpoint? If patients are allowed or required to pay, will this increase the number of self-respecting citizens who apply for admission, raise the tone of the institution and induce patients to come early in the disease, and even make possible the provision of increased accommodations? Some hospitals are criticized as being overcrowded, and larger hospitals advised. The plan of caring for patients by per capita contracts is not generally recommended except as provided for by the "Act to provide for the medical treatment of indigent residents afflicted with incipient pulmonary tuberculosis," of April 14, 1909. While it is possible to properly conduct a tuberculosis ward in connection with a general hospital it is usually recommended that the tuberculosis department have a building apart from the general hospital, free from the oppressive atmosphere of the latter and so attractive to early cases.

In general the recommendations which have been made in connection with reports of inspections have aimed to be along modern and approved lines, which are said to be "simple construction, good food, cleanliness, rest or light employment, and a happy, friendly atmosphere."

State Institutions.

Prisons.—Under the law requiring that the department of tuberculosis shall "advise officers of the penal and charitable institutions regarding the proper care of tuberculous inmates," an investigation of conditions in the state prisons was made and extended to certain county prisons and city jails, disclosing the fact that some of the latter were so constructed and conducted as to constitute a menace to the state prisons by sending to them patients destined to develop tuberculosis as a result of the insanitary conditions of the first imprisonment. It

was found that there was no state inspection of a large group of these smaller prisons, because of lack of appropriation for this purpose and the investigations begun by this department were conducted only as opportunity offered in connection with inspections of county hospitals and other institutions treating tuberculosis which could be visited on the same trip and without loss of time. These investigations, however, were discontinued upon the receipt of legal advice as to the duties of this bureau.

The two prisons of California have tuberculosis problems which are somewhat similar, owing to the fact that both institutions were constructed in part at a time when less attention was given to sanitary detail than at present. While even some of the modern structures fall short of the ideal as to the admission of light, the older cells, which are still in use and often overcrowded, are dark and poorly ventilated. The management is well aware of these defects and is making every effort to improve conditions so far as practicable. There is still much room for improvement in the matter of overcrowding.

Increased space is particularly desirable in order that receiving cells may be available for the isolation of prisoners pending physical examination. Segregation of open cases of tuberculosis is practiced in both prisons, and San Quentin is enlarging and improving the tuberculosis wards. The fact that the hours of work and rest are well regulated, apparently has a tendency to prevent the development of tuberculosis which would undoubtedly result if patients were continuously confined in the cells which they occupy at night. The good effect of this plan might be materially increased by an improvement of the working conditions of some of those following indoor occupations.

State Hospitals.—Some of the faults referred to in connection with the prisons are also true, in a lesser degree, of the insane hospitals. While some of the construction is not what it should be in respect to making provision for the admission of light and air, yet this defect would work but little harm were it not for the constant tendency to overcrowding. The older buildings were generally planned with a liberal amount of air space and the patients' rooms were usually fairly well lighted. Some of the buildings erected in recent years show a tendency to undue economy in restricting the space allotted to each patient. Considering the favorable climate of California institutions of this character should make every effort to provide an almost constant outdoor life for all patients, as this would tend to lower the death rate from tuberculosis without being objectionable from the standpoint of the psychiatrist. While various recommendations have been made respecting conditions predisposing to tuberculosis in the state insane hospitals, it is the purpose of this bureau to confine further inspections strictly to departments devoted to the care of tuberculosis when these shall have been established.

Soldiers' Home.—Increased accommodation for the care of tuberculous inmates was recommended for this institution because of the fact that present accommodations were not adequate for the complete segregation of this class of patients. An entirely new ward is very much needed.

Private Charities.

In the history of the tuberculosis movement it has often been the case that measures undertaken for the prevention of tuberculosis have been originally instituted by private philanthropy, and the burden later assumed by the local or state government. Hence this report would be incomplete without reference to certain well established charities in this state.

Barlow Sanatorium opened September 1, 1903, for the care of the indigent tuberculous of Los Angeles County, who have been resident in the county for one year, and who are in no condition for active work. This institution was found to have developed into a remarkably efficient and complete institution, during this tenth year of its existence treating and discharging 61 cases. The average number of patients in the sanatorium throughout the year was 40, there being 43 beds in all. Patients who have the best chance for improvement or recovery are chosen from the waiting list, and a charge of not over \$5.00 per week is made to patients or friends of patients. The per capita weekly cost this year was \$9.11 and the annual deficit met by subscription, including money raised for improvements and new buildings amounted to \$13,129.13.

La Vina, near Pasadena, opened July 26, 1909, receiving all classes of cases who are residents of the vicinity, renders the public remarkable service by removing from the community cases which would otherwise be a source of infection, particularly heads of families who are a burden as well as a danger to their children. The maximum charge for resident patients, who are able to pay, is \$7.00 per week; if this is a hardship they may pay less, and no one is refused or discharged for want of means. Non-residents are received in emergencies at actual cost. The original cost and the large annual deficit of about \$15,000.00 has been met by private charity.

Arequipa, Marin County, opened September 9, 1911, for wage-earning women. While it does not call itself a charity it is in reality to be classed with the two preceding, in that it offers good sanatorium treatment at a moderate cost, a plan which serves to preserve the self-respect of the individual; at the same time the institution demands no inconsiderable donations of money, time and supplies.

Other institutions have been attempted by private charitable organizations, but have been obliged either to vary the cost of accommodations to such an extent as to remove it from this class of essentially charitable institutions or to discontinue owing to inability to meet the deficit. The three institutions mentioned might each serve to offer an example of desirable features which may well be incorporated in public tuberculosis hospitals.

Other private charities inspected are the dispensaries, of which there are six in California, one at each of the following places named in the order of their founding: Los Angeles, San Francisco, San Diego, Oakland, Berkeley, and San Jose. During the greater part of their existence these dispensaries, which have for their primary object the discovery of cases of tuberculosis, the education of the community, the aftercare and employment of patients, and assistance to their families, have been supported mainly by private charity and consequently have been obliged to place more emphasis on those lines of work which are obvious and make the strongest appeal. Upon inquiry it has been found that these institutions are willing to cooperate with

the State in the matter of epidemiological and sociological studies which may serve as a basis for future scientific handling of the tuberculosis problem.

Private Tuberculosis Sanatoria.

Name	Address	Number of beds for tuberculosis.	Inspected
1. Alta	Alta, Placer County.....	35	Sept. 9, 1913
2. Arequipa	Fairfax, Marin County.....	40	Jan. 19, 1914
3. Barlow	Los Angeles	43	Oct. 3, 1913
4. California	Belmont, San Mateo County.....	50	Jan. 16, 1914
5. School for the tuberculous	Colfax, Placer County.....	60	Sept. 10, 1913
6. Colfax	Colfax, Placer County.....	20	Sept. 2, 1913
7. Desert Inn	Palm Springs, Riverside Co.....	25	Oct. 16, 1913
8. Griffith & Tucker.....	Riverside	10	Oct. 17, 1913
9. Dr. King's	Banning, Riverside County.....	25	Oct. 15, 1913
10. Kings Daughters Home.....	Oakland, Alameda County.....	7	Jan. 12, 1914
11. Mrs. Marshall	San Bernardino	15	Oct. 14, 1913
12. Martyn	Altadena, Los Angeles County.....	20	Oct. 11, 1913
13. The Oaks	Los Gatos, Santa Clara County.....	30	Jan. 13, 1914
14. Dr. Pottenger's	Monrovia, Los Angeles County.....	100	Oct. 4, 1913
15. St. Thomas Aquinas.....	Mentone, San Bernardino Co.....	12	Oct. 14, 1913
16. Southern Sierras	Banning, Riverside County.....	20	
17. Southern California.....	Los Angeles	20	
18. La Vina	Los Angeles	90	Oct. 11, 1913
19. I. O. O. F. Sanatorium.....	Los Angeles	50	Apr. 24, 1914
20. "The Shepard Sanatorium" (formerly El Reposo)	Sierra Madre	60	
Total number of beds.....		732	

Private Hospitals Receiving Pulmonary Tuberculosis.

Name	Address	Number of beds for tuberculosis.	Inspected
1. Hazel Hawkins Memorial	Hollister, San Benito County.....	4	Jan. 15, 1914
2. French	San Francisco	14	Jan. 17, 1914
3. Kaspere Cohn	Los Angeles	10	Oct. 12, 1913
4. St. Caroline	Redding, Shasta County.....	14	
5. Southern Pacific	San Francisco	22	Jan. 17, 1914
6. Goodman's	Sutter Creek, Amador County.....	3	
7. Santa Rita Hospital.....	Los Angeles	35	
Total number of beds.....		102	

State Institutions.

Name	Address	Number of beds for tuberculosis.	Inspected
1. San Quentin State Prison -----	Marin County -----	20	Jan. 20, 1914
2. Folsom State Prison-----	Sacramento County -----	10	Dec. 8, 1913
3. Preston School of Industry -----	Ione, Amador County-----	*	Dec. 30, 1913
4. Stockton State Hospital -----	San Joaquin County-----	*	Dec. 31, 1913
5. Napa State Hospital-----	Napa County -----	*	Jan. 21, 1914
6. Agnews State Hospital -----	Santa Clara -----	*	Jan. 16, 1914
7. Southern California State Hospital -----	Patton, San Bernardino Co.---	*	Oct. 14, 1913
8. Sonoma State Home-----	Eldridge, Sonoma County-----	30	Mar. 7-9, 1914
9. Mendocino State Hospital -----	Ukiah, Mendocino County.		
10. Veterans' Home -----	Yountville, Napa County-----	36	Jan. 21, 1914

*Tuberculosis patients are received, but there is no definite number of beds assigned.

As will be seen by referring to the tables, there are a number of private general hospitals which have tuberculosis departments. A feature which this Bureau has aimed to encourage because it increases the accommodations for those suffering from this disease who are so often excluded from general hospitals, or received under protest, to the detriment of the morale of the institution. A well conducted tuberculosis department of a general hospital is of great benefit to the general public, both by its education of nurses in training to a proper understanding of methods of treatment and prophylaxis, and because it has a tendency to induce a reasonable and humane attitude toward the consumptive. Again, where such hospitals are used for clinical purposes by medical students, the presence in them of pulmonary tuberculosis is an opportunity for very necessary education in diagnosis.

Registration.

Realizing that proper registration of tuberculosis cases is essential to any plan for the control or eradication of tuberculosis, this Bureau has aimed to accomplish as much as possible in this line with the limited funds available. An effort has been made to bring the matter to the attention of physicians, first by sending to 284 health officials a letter calling attention to the law; later by writing to the secretary of each of the county societies, requesting that the subject of registration be given special attention in the local society, and that the letter be read to each society. This letter was also published in the "California State Journal of Medicine." The subject of registration was presented briefly to the health officers at the October meeting in Venice, and also to the San Joaquin County Medical Society and the San Diego County Medical Society. Wherever possible use has been made of local tuberculosis societies or personal appeal with the purpose of educating the public to a realization of the importance of this work.

Signed letters have been mailed to 2,113 physicians and health officers enclosing blanks for the reporting of tuberculosis. As funds do not permit dealing directly with all physicians in the State, in the larger cities it has been left to the health officers to distribute report blanks and to aim to stimulate morbidity returns. The results of this work are shown by an increase in the number of cities and counties reporting tuberculosis, which has been very gratifying, and also by a noticeable increase in the number of cases reported. By referring to the accompanying tables it will be seen that morbidity reports are available for 1912 and 1913. There are no records of tuberculosis morbidity previous to 1912 on file in this office.

Tuberculosis Morbidity.
Cases of Tuberculosis Reported.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total cases	Total deaths
1912 -----	562	260	750	166	181	214	115	159	129	148	206	194	2,384	5,128
1913 -----	192	33	208	200	141	120	182	163	204	410	386	339	2,578	5,402
Average of 1912-13.-----	277	146	226	183	161	167	148	161	166	279	296	266		
1914 -----	515	418	430	519	424	433							*2,739	

*Total for six months.

Total reported September, 1913, to June, 1914, inclusive.....4,078

As the work of this Bureau did not begin until September, 1913, it is too soon to draw conclusions or to make extensive comparisons. It may be noted, however, that deaths are much more fully reported than cases, and that during the ten months since the establishment of this bureau, the number of cases reported shows a tendency to approach that of the annual death rate from tuberculosis.

Great pains have been taken to devise a standard card for making these reports which shall furnish the most important sociological and medical data. A circular letter was sent to a number of eastern states and a study made of the replies received and the results compared with blanks at present in use in this State. While not perfect the card seems to be bringing in very good returns. It is the plan of the bureau to distribute no more cards directly to physicians, but to work through local health officers, as this is the method indicated by the law. While it is not the intention of the bureau to publish the names of patients, these are essential for identification in a disease which is of such long standing as tuberculosis, and one in which there is so much migration. The form of card used is as follows:

CALIFORNIA STATE BOARD OF HEALTH
Bureau of Tuberculosis

REPORT OF A CASE OF TUBERCULOSIS

The state law requires you to report all cases of Tuberculosis. Write plainly with non-faint ink.

Name of patient _____		Age _____	Sex _____	Single Married Widowed Divorced Separated
Street and No. _____		City _____	County _____	
Previous Address _____ Home address _____				
Dwelling: detached, flat, tenement, boarding, hotel, hospital, other _____				
Housing: good, fair, poor. Financial condition: independent, wage earner, indigent. Occupation _____ yrs. mos. _____				
Occupational conditions: Good, fair, poor _____ Former occupation _____				
yrs. mos. Nativity: State _____				
Foreign _____ Race or Color _____				
How long resident of Cal.? _____ City? _____ County? _____				
Family: No. persons _____ Has family received sanitary instructions? _____				
Tuberculosis: in father, mother, brothers _____ sisters _____ husband, wife, children _____, others _____ Bacteriological examination T. B., pos. _____, neg. _____ by whom _____				
Approximate date of Diagnosis _____ Prognosis _____				
Result _____				
Physician's signature _____				Date _____

Type of Disease
Tuberculosis of Lungs
Larynx
Lymph Glands
Peritoneum
Bones
Intestines
Skin

NOTICE.—The attending physician will fill out the above form and return to the local health authority for transmission to the State Board of Health. Draw a line through words not needed.

It will be seen that by underlining certain words or drawing a line through words that are not needed, very little writing is necessary to give a report which will supply much useful information to the department.

Approximately 4,000 names and addresses have been reported since January, 1913, and have been transcribed upon cards for the purpose of making a study of the location and migration of individuals and eliminating the records of those who have died. As there are approximately 3,000 deaths each month which must be compared with the register, it is a matter requiring no inconsiderable clerical labor to keep this tuberculosis register a record of the living.

Included in a report of this kind. Certain inspections, investigations and executive duties have been undertaken by the director in his capacity as assistant secretary. In this capacity also he attended the Surgeon General's Conference, June 18th, a meeting of state and territorial boards of health, June 19th and 20th, and a conference with the Commissioner of Indian Affairs, June 20th, in Washington, D. C., and the annual meeting of the American Medical Association, June 22d, in Atlantic City, New Jersey.

Following this he made an investigation of the methods used in Pennsylvania for the control of tuberculosis, including an inspection of the three state sanatoria, numerous dispensaries, as well as a study of methods in use in the central offices at Philadelphia and Harrisburg. Conferences were held with officers of the National Association for the Study and Prevention of Tuberculosis at New York and with prominent officials and workers in Massachusetts, New York, Illinois and Colorado, and also inspections made of hospitals, dispensaries and of methods used in these states for the treatment or control of tuberculosis.

While in Washington an opportunity was taken to inquire into the status of a bill known as the Shafroth-Calloway Bill which has been introduced as the result of the activities of the Texas Anti-Tuberculosis Association, and provides for the establishment of federal hospitals for consumptive strangers in the southwest. California has been asked to lend its support to this measure as a means for equalizing the burden

which it must bear in the care of indigent strangers attracted by the reputation of its climate.

The following papers have been prepared during the year:

"Rating the Efficiency of Hospitals and Institutions for the Tuberculous" (read at Venice, October, 1913).

"A Word to Teachers on Health," issued by Edward Hyatt, Superintendent of Public Instruction, in the series of leaflets on Health Conservation authorized by the legislature of 1913.

"A New Movement in Public Health Work," read before the Sacramento Nurses' Association, January 7, 1914.

"The Tuberculosis Commission and the Tuberculosis Bureau," read before the San Joaquin County Medical Society, January 30, 1914.

"Registration," written for the Colfax "Tea Bee."

"The Bureau of Tuberculosis, its Work and Plans," read before the annual meeting of the California Association for the Study and Prevention of Tuberculosis, held jointly with the forty-fourth annual meeting of the Medical Society of the State of California, Santa Barbara, April, 1914.

The following reports of inspections have been filed with the secretary of the Board of Health:

Reports of Institutions Submitted.

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|--|--|
| 1. Alameda County Hospital. | 41. Dr. King's Sanatorium. |
| 2. Clinic of the Alameda Society for the Study and Prevention of Tuberculosis. | 42. Sacramento County Hospital. |
| 3. Berkeley Dispensary. | 43. H. Hunziker Reduction Works. |
| 4. King's Daughters Home. | 44. Rapetti Reduction Works. |
| 5. Amador County Hospital. | 45. Sacramento County Prison. |
| 6. Preston School of Industry. | 46. Sacramento City Prison. |
| 7. Butte County Hospital. | 47. Folsom State Prison. |
| 8. Butte County Prison. | 48. San Benito County Hospital. |
| 9. Contra Costa County Hospital. | 49. San Bernardino County Hospital. |
| 10. Fresno County Hospital. | 50. St. Thomas Aquinas. |
| 11. St. Thomas Hospital, Imperial County. | 51. Southern California State Hospital. |
| 12. Kern County Hospital. | 52. Mrs. Marshall's Home. |
| 13. Los Angeles County Hospital. | 53. San Diego County Hospital. |
| 14. La Vina Sanatorium. | 54. San Diego Society for the Study and Prevention of Tuberculosis. |
| 15. Broadway Dispensary. | 55. San Francisco County Hospital. |
| 16. Loma Linda Free Dispensary. | 56. Southern Pacific General Hospital. |
| 17. Barlow Sanatorium. | 57. French Hospital. |
| 18. I. O. O. F. Sanatorium. | 58. Jackson Street Dispensary. |
| 19. Bethlehem Institute. | 59. San Joaquin County Hospital. |
| 20. Pottenger Sanatorium. | 60. San Joaquin County Jail. |
| 21. Martyn's Sanatorium. | 61. Stockton State Hospital. |
| 22. Kaspere Cohn Hospital. | 62. San Luis Obispo County Hospital. |
| 23. Hazel Hawkins Memorial Hospital. | 63. San Mateo County Hospital. |
| 24. Madera County Hospital. | 64. California Sanatorium. |
| 25. Marin County Jail. | 65. Santa Clara County Hospital. |
| 26. San Quentin Prison. | 66. Agnews State Hospital. |
| 27. Arequipa Sanatorium. | 67. Santa Clara County Association for the Study and Prevention of Tuberculosis. |
| 28. Merced County Hospital. | 68. Santa Clara County Jail. |
| 29. Monterey County Hospital. | 69. The Oaks Sanatorium. |
| 30. Napa State Hospital. | 70. Santa Cruz County Hospital. |
| 31. Napa County Hospital. | 71. Sonoma State Home. |
| 32. Soldiers' Home, Yountville. | 72. Stanislaus County Hospital. |
| 33. Orange County Hospital. | 73. Sutter County Hospital. |
| 34. Placer County Hospital. | 74. Tulare County Hospital. |
| 35. Alta Sanatorium. | 75. Yolo County Hospital. |
| 36. Colfax Hospital. | 76. Yuba County Hospital. |
| 37. Colfax School for the Tuberculous. | 77. Yuba County Jail. |
| 38. Riverside County Hospital. | 78. Marysville City Jail. |
| 39. The Desert Inn Sanatorium. | |
| 40. Griffith & Tucker Sanatorium. | |

REPORT OF BUREAU OF REGISTRATION OF NURSES.

ANNA C. JAMME, Director.

The act authorizing the establishment of a department of examination and registration of graduate nurses, under the State Board of Health, was approved June 12, 1913. In accordance with its organization, this department became a bureau of the State Board of Health, and according to the provisions of the law a director was appointed on October 4, 1913, and the work of the bureau was immediately commenced.

The organization embraces:

1. REGISTRATION.

A. Registration of applicants without examination, under section 3 of the law.

B. Registration of applicants without examination who are already registered in another state or foreign country, under section 8.

C. Registration of applicants with examination, who are graduates of accredited schools for nurses, under section 4.

2. INSPECTION OF TRAINING SCHOOLS.

3. ACCREDITING OF TRAINING SCHOOLS.

4. EXAMINATION.

5. DEVELOPMENT.

Four thousand eight hundred and thirty-three applicants were registered and certificates issued, under section 3. These applicants were obliged to qualify by presentation of their diploma or a certificate signed by the present superintendent of the training school in which they received their course of instruction. This certificate testified to a general training, good moral standing and completion of theoretical and practical course. A certificate of health signed by a physician accompanied the application.

The registration of applicants who are already registered in another state or foreign country is required in order that such applicants may be known as "Registered Nurses" and use the title R. N. after their name in this state. Before such registration is granted, it is first ascertained if the laws of the state or foreign country issuing the certificate of registration are equivalent to those provided for by the California law. It is further ascertained if the applicant is or intends to become in good faith a resident of this state.

The inspection of training schools for nurses includes a yearly inspection by the director of the bureau. This inspection includes a study of the conditions under which the pupils receive their training; the character of the hospital, and if it affords a general training; its capacity; nature of its service and its equipment. Educational requirements for the admission of pupils to the training schools; the number and qualifications of the nurse instructors and the subjects taught by class and demonstration. The staff of medical lecturers; equipment for teaching nurses, as class rooms, library, diet kitchen, laboratory, etc. The nature and amount of instruction, the plan followed in practical and theoretical

work and time allowed for practical experience in each department of the hospital.

Inspection is made for the purpose of accrediting the schools maintaining the standard required. A report of each inspection is made to the State Board of Health. The requirements for training schools for nurses are as follows:

The school for nurses or the hospital with which it is connected must be either incorporated or be conducted by a public body.

The hospital must have a capacity of not less than 35 beds and a daily average of 25 patients.

The hospital must afford proper facilities for conducting a school for nurses. It must provide experience in the following departments of nursing: Medicine, Surgery, Obstetrics, and Pediatrics. It must provide a systematic course of theoretical instruction in medical, surgical and obstetrical nursing and the divisions under these major subjects.

Due attention must be given to the home life of the student. There must be a living room, a class room, a demonstration room and adequate equipment for teaching purposes. There must be a sufficient number of airy sleeping rooms; individual rooms are recommended. There must also be special provision for night nurses' rooms.

The diet must be simple, wholesome, well cooked and ample.

The head of the training school must be a registered nurse and must possess qualifications requisite for the administration of the school; she must have ability for teaching, she must be capable of guiding the students in moral discipline and of maintaining a high standard of educational and moral efficiency in the school.

A force of instructors must be maintained sufficient and competent for the instruction herein specified.

A complete record must be kept of the students in the school; their qualifications for admission; their class and lecture work; their practical work; their moral standing and general ability and efficiency.

ADMISSION.

Candidates for admission to training schools for nurses should present the following evidence:

1. A complete high school education, or a two-year high school course or its equivalent in a recognized school, together with two years of special study, or an occupation that would be considered preparatory to the study of nursing.

2. Home training and influences fitted to form good moral character and lay the foundation for the future work of the nurse.

3. Good physical condition. A complete physical examination must be made by a physician before application is accepted. Physical and mental development shall be taken into consideration in connection with the age of the candidate, but, in general, it is advised that a pupil shall not be under 20 years or over 35 years of age.

It is recommended that students shall be admitted *in classes* at stated periods during the year.

